WebAssign®

WebAssign Student Guide

December 2013

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Order the WebAssign service from:
WebAssign
NC State Centennial Campus
1791 Varsity Drive, Suite 200
Raleigh, NC 27606
Web: http://webassign.net
Tel: (800) 955-8275 or (919) 829-8181
Fax: (919) 829-1516
Email: info@webassign.net

Contents

Release Notes

Release notes describe new features and resolved issues for each release.

December 6, 2013 Release Notes

This release includes enhancements to many error pages and better display of math expressions in help content. It also addresses some reported issues affecting students.

Improvements to Error Pages

Two improvements have been made to many error pages:

- Most error pages now include a direct link to report the problem to WebAssign® customer support.
- Most student-facing error pages also include information about the user and an identifier that can be matched up to the application logs for validation and troubleshooting by WebAssign® customer support.

Improved Display of Math Notation in Help

Some math expressions in the online help were previously included as images with alternative text. Many of these images have now been replaced with MathML and rendered using MathJax. This provides a better experience for users with screen readers and improved appearance for sighted users. See Examples of Math Notation with mathPad.

Resolved Issues

The following reported issues have been resolved since the previous release.

Issue Summary	Issue Numbers
Some correct answers to algebraic mode questions were graded as incorrect.	LEGO-3396

Issue Summary	Issue Numbers
Some answer keys for algebraic questions were displayed incorrectly. The questions were graded correctly; only the displayed answer key was incorrect.	LEGO-3360
The **My Classes** menu for students was not displayed in Internet Explorer® 8 or 9 after the November 6 release. This affected only students enrolled in multiple classes. The menu displayed correctly in other supported browsers.	LEGO-3356
When using the graphing tool on iPad®, it was possible to draw an object with zero size, for example, by drawing a line segment that started and ended at the same coordinates.	LEGO-3371
The names of graphing tool objects on the iPad® contained random characters, for example, `Circle 1C52`. Names have been simplified, for example, to `Circle 1`.	LEGO-3387
The colors for selected objects in the graphing tool on iPad® were inconsistent.	LEGO-3364

November 6, 2013 Release Notes

This release includes improvements to the speed of mathematical grading in WebAssign®. It also addresses some reported issues affecting students.

Mathematica® Grading Improvements

A new API increases the speed with which WebAssign® can grade many student answers that are graded mathematically.

New Content

The following textbooks are available in WebAssign® as of this release.

Mathematics

- Aufmann and Lockwood, *Basic College Math: An Applied Approach - Self Paced* 10e
- Aufmann and Lockwood, *Introductory Algebra: An Applied Approach - Self Paced* 9e
- Aufmann and Lockwood, *Prealgebra: An Applied Approach - Self Paced* 6e
- Larson and Edwards, *Calculus: Early Transcendental Functions* 6e

Resolved Issues

The following reported issues have been resolved since the previous release.

Issue Summary	Issue Numbers
Feedback was sometimes shown for all parts of a multi-part question after only some parts had been answered.	LEGO-413
For a specific combination of assignment settings, students could see a worked solution (if one was available for the question) for numerical questions without using a submission by submitting an answer that cannot be graded.	LEGO-2884
Sometimes, feedback was incorrectly displayed after a student saved an answer.	LEGO-3137
The display of some answer keys was incorrectly rounded down when the fourth significant digit was a 5. This did not affect student grading, but only the display of some answer keys.	LEGO-176, WAFFLE-152
The "More information" help link on the Grace Period notification for eBooks did not work.	LEGO-3239

October 9, 2013 Release Notes

This release notes summarizes the changes for all releases since August 21, 2013.

Database Optimizations

A series of optimizations were made to database queries in the WebAssign® application. These optimizations generally fell into one of three categories:

- identify and eliminate some causes of excessive database queries
- improve the performance of database queries
- cache data where appropriate to eliminate some database queries

New Hardware

A new database server was installed the weekend of September 21 that quadrupled the previous server capacity.

New Content

The following textbooks have been added or updated in WebAssign® as of this release.

Mathematics

Tan, *Applied Calculus for the Managerial, Life, and Social Sciences* 9e

Physics

Kesten and Tauck, *University Physics for the Physical and Life Sciences* 1e

Resolved Issues

The following reported issues have been resolved.

Issue Summary	Issue Numbers
Students could circumvent LockDown Browser restrictions by entering HTML in the Notes tool in their assignments.	LEGO-2140
For a specific combination of assignment settings, students could see the answer key for numerical questions without using a submission by submitting an answer that cannot be graded (for example, =).	LEGO-2668
Sometimes after uploading a file to answer a question, students could not open the uploaded file. Instructors had no problem opening the file.	TESLA-727, LEGO-3100, LEGO-2414
MarvinSketch questions were not graded correctly when entered on some older Macs that used MacRoman encoding.	LEGO-2807
Final score calculations for the GradeBook were truncated at two decimal places instead of rounded. For example, a score of 61.669 was displayed as 61.66 instead of 61.67.	LEGO-1905
Students' points for the last part of a multi-part question in a question pool were sometimes rounded incorrectly, for example, from 0.15 to 0.14. This error was usually observable only for questions with many parts.	LEGO-443
No indication was given to students when saving work that their work was being saved.	TESLA-713
When typing a chemPad® answer, sometimes an open brace ({) was incorrectly displayed temporarily after typing an underscore or caret. This affected only the Safari® and Firefox® browsers.	LEGO-2824
State-of-matter notation and units were not correctly italicized in chemPad® concentration cell reactions.	LEGO-668
In Personal Study Plan® quizzes, the Practice Another Version button was displayed beside the answer box instead of at the bottom of the question.	LEGO-1274

August 21, 2013 Release Notes

This release includes updates to how students purchase access to WebAssign®, confirmation when students submit answers, and improvements to the speed and reliability of grading for some kinds of math questions. It also addresses some reported issues affecting students.

Collect Sales Tax When Required and Improve PayPal Purchasing Experience

WebAssign® now collects sales tax on PayPal purchases when required to do so. As part of that change, the payment workflow has been updated and should provide a more reliable experience for students purchasing access to WebAssign® and course materials.

Answer Submission Confirmation

WebAssign® now displays a confirmation message when students submit answers. This lets students know their answers were received even if the instructor has turned off all marks and feedback for the assignment.

MarvinSketch Question Conversion

All textbook questions using MarvinSketch have been converted to use MarvinSketch version 5.12.1. Some instructor-created questions still use MarvinSketch version 5.3.8.

New Content

The following textbooks are available in WebAssign® as of this release.

Chemistry

- Atkins, Jone, and Laverman, *Chemical Principles The Quest for Insight* 6e
- Burdge, *Chemistry* 3e
- Chang and Overby, *General Chemistry: The Essential Concepts* 7e

Mathematics

- Axler, *Precalculus: A Prelude to Calculus* 2e
- Crauder, Evan, and Noell, *Functions and Change: A Modeling Approach to College Algebra* 5e
- Taalman and Kohn, *Calculus* 1e
- Young, *Algebra and Trigonometry* 3e
- Young, *College Algebra* 3e

Physics

- Halliday, Resnic, and Walker, *Fundamentals of Physics* 10e
- Serway, Jewet, and , *Physics for Scientists and Engineers* 9e

Statistics

- Field, *Discovering Statistics Using IBM SPSS Statistics (U.S. and Canada Only)* 4e

Resolved Issues

The following reported issues have been resolved since the previous release.

Issue Summary	Issue Numbers
New WebAssign® users created while certain server transactions were happening could not log in to WebAssign®.	LEGO-2602
The Java™ plugin requirement warning was not displayed for some older assignments with MarvinSketch questions.	TESLA-176
The **Open Assignment** button in the plugin requirement warning did not work for some browsers.	TESLA-172

Issue Summary	Issue Numbers
Grading for MarvinSketch questions sometimes marked answers correct that contained errors in the location or direction of electron flow arrows.	TESLA-163
Copy and paste tools were not displayed for MarvinSketch questions using the skeleton_adv mode.	TESLA-175
When typing an answer in chemPad®, some characters should have ended any existing subscript or superscript, but did not. Now, subscripts and superscripts allow only chemically plausible notation like numbers or plus or minus signs.	LEGO-2444
Under some circumstances, users could not navigate to the next question in an assignment using only the keyboard. Also see Configure Mac OS X for Keyboard Accessibility on page 216.	LEGO-2519
Clicking into and then outside of a Show My Work answer box sometimes resulted in bad data if the user's interaction happened more quickly than the Show My Work tool could be completely opened. Now, users cannot interact with the Show My Work answer box before all of its code is loaded.	LEGO-434
When viewing a scored tutorial question after the due date or on the Previous Answers page, the **Submit** and **Skip** buttons were incorrectly displayed.	LEGO-508

July 10, 2013 Release Notes

This release addresses some reported issues affecting students and instructors.

New Content

The following textbooks are available in WebAssign® as of this release.

Mathematics

- Bracken and Miller, *Elementary Algebra* 1e
- Bracken and Miller, *Intermediate Algebra* 1e
- Holt, *Linear Algebra with Applications* 1e
- Larson, *Algebra and Trigonometry* 9e
- Larson, *Elementary Algebra: Algebra Within Reach* 6e
- Larson, *Intermediate Algebra: Algebra Within Reach* 6e
- Larson, *Precalculus* 9e
- Larson, *Precalculus with Limits* 3e

Resolved Issues

The following reported issues have been resolved since the previous release.

Issue Summary	Issue Numbers
For some courses using more than one textbook in WebAssign®, students were not automatically given access to all course materials after purchasing access.	LEGO-2613
Automatic bonus and penalty points were not applied correctly for some conditions.	LEGO-2533
Student work was sometimes scored incorrectly after performing a rescore.	LEGO-65, TESLA-75, TESLA-178
Grading for MarvinSketch questions sometimes marked answers correct that contained errors in the location or direction of electron flow arrows.	TESLA-163
The plugin requirement warning was not displayed for some older assignments requiring the Java™ plugin to open MarvinSketch questions. Additionally, on some browsers, the link to open the assignment anyway did not work correctly.	TESLA-172, TESLA-176
The copy and paste tools were incorrectly not shown for MarvinSketch questions that used the skeleton_adv mode.	TESLA-175
The help information incorrectly stated that a problem existed with MarvinSketch questions and Internet Explorer® 8. This information has been updated to reflect that the problem happens only when compatibility mode is enabled.	TESLA-169

System Requirements for WebAssign®

WebAssign® is a Web-based application and requires broadband Internet access using a supported Web browser. Some content might also require additional plugins.

WebAssign® is tested and supported for the systems and browser versions listed here.

Mozilla® Firefox®, version 12 or later

Windows®, Mac® OS X, Linux®

Internet Explorer®, version 8 or later

Windows®

Google® Chrome™, version 19 or later

Windows®, Mac® OS X

Apple® Safari®, version 5.1 or later

Mac® OS X, iOS 5 or later on iPad®, Windows®[1]

Other browsers and versions than those listed might also work, but are not supported. If you encounter problems when using an unsupported browser, try using a supported browser before contacting WebAssign® Customer Support.

Use the following links to obtain installation instructions and downloads for the supported browsers.

- Internet Explorer®: www.microsoft.com/windows/internet-explorer/
- Mozilla® Firefox®: www.mozilla.com/firefox/
- Chrome™: www.google.com/chrome/
- Safari®: www.apple.com/safari/

Browser Settings

Configure the following settings in your Web browser.

[1] MarvinSketch is not supported for Safari® on Windows®.

- Allow cookies and pop-up windows from www.webassign.net.
- If you are accessing WebAssign® from Blackboard, accept third-party cookies.
- Do not allow your browser to store your WebAssign® password.

See your browser's help information for specific instructions.

See Also:
Problems Working on iPad on page 202
Browser Displays a Message That WebAssign is Not Supported on page 201
Screen Reader Configuration for STEM Content on page 214

Required Browser Plug-Ins

Some WebAssign® content and tools require browser plugins.

WebAssign® content and tools that require browser plugins are tested and supported for the following plugin versions:

- Adobe® Acrobat Reader®, version 8 or later
- Adobe® Flash® Player, version 10 or later
- Adobe® Shockwave® Player, version 11 or later
- Java™, version 6 (build 1.6.0) or later

If you encounter problems when using advanced features of WebAssign® such as mathPad or eBooks, check to be sure that you have supported versions of these plugins installed.

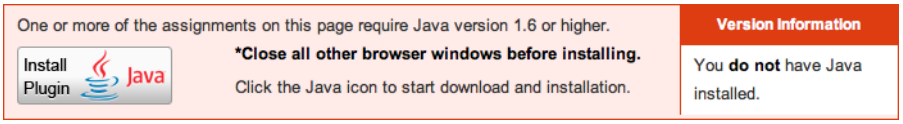
Additional learning resources provided by textbook publishers or instructors might require other software.

Automatic Plug-In Version Checking

When you log in to WebAssign® as a student, WebAssign® checks your scheduled assignments for certain questions identified as requiring either Java™ or Flash®. If any of your assignments include these questions, your system is checked to see if you have the required plugin version installed.

Note: WebAssign® does *not* perform a comprehensive check of all assignment questions to determine all plugin requirements. Questions created by instructors might require other plugins or plugin versions.

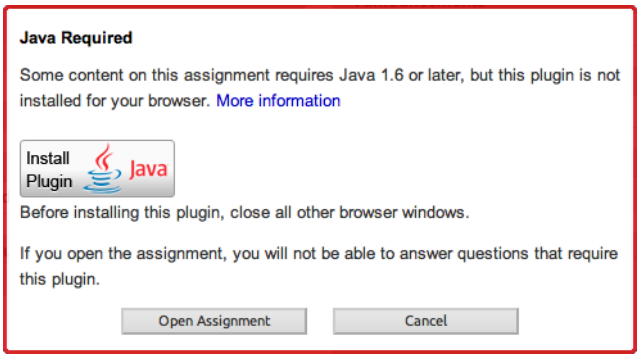
If you do not have the required plugin version installed, a warning is displayed on your Home and My Assignments pages informing you about the required plugin version.



Click **Install Plugin** to obtain and install the required plugin.

Assignments identified by WebAssign® as requiring a plugin version that is not installed display an icon indicating what plugin is required.

Clicking the assignment name displays an additional warning message.



Click **Install Plugin** to obtain and install the required plugin.

Some assignments contain content requiring either Adobe® Flash® Player or Java™. These assignments can be opened on an iPad®, but the content requiring Flash® or Java™ will not be displayed. Currently, this includes the following content:

- MarvinSketch questions
- pencilPad® questions
- publisher-provided content such as eBooks and tutorials that use Flash® or Java™
- instructor-provided content requiring Flash® or Java™

Installing Browser Plug-Ins

Use the following links to obtain installation instructions and downloads for the supported browser plugins.

- Adobe® Acrobat Reader®: http://get.adobe.com/reader/
- Adobe® Flash® Player: www.adobe.com/products/flashplayer/
- Adobe® Shockwave® Player: www.adobe.com/products/shockwaveplayer/
- Java™: www.java.com/getjava

See Also:

Problems Working on iPad on page 202
Cannot Open MarvinSketch or Java Questions in Chrome on page 208
Problems Installing Java on OS X on page 201
MarvinSketch Questions Do Not Display Drawing in Assignment on page 209

Browser Cookies and WebAssign®

Like many online services, WebAssign® uses an encrypted cookie file to maintain your login status while you are using WebAssign®. This cookie is deleted when you log out of WebAssign® or close your browser.

WebAssign®'s encrypted cookie file contains your username, password, and institution. This information is used to authenticate your identity each time you give or request information — like assignments or grades — from WebAssign®.

This helps to safeguard the security of your information without requiring you to log in repeatedly while you are using the system.

Accessing WebAssign® from Blackboard

If you are accessing WebAssign® from Blackboard, this cookie is used to log you in automatically to WebAssign®. Because the request comes from your Blackboard system and not from WebAssign®, the cookie is considered in this case to be a third-party cookie.

Browser Settings

Most browsers are configured to accept cookies by default, so you might not need to make any changes at all. If you are being asked to log in repeatedly to WebAssign®, or if your browser warns you about cookies while using WebAssign®, you might want to change your browser settings.

- Allow cookies and pop-up windows from www.webassign.net.
- If you are accessing WebAssign® from Blackboard, accept third-party cookies.
- Do not allow your browser to store your WebAssign® password.
- Optionally, turn off browser warnings for cookies.

See Also:
Enable Third-Party Cookies for Blackboard on page 210

LockDown Browser System Requirements

LockDown Browser is supported only for Microsoft® Windows® and Mac® OS X with supported Web browsers installed.

Assignments requiring LockDown Browser cannot be completed on Linux® or iOS devices because LockDown Browser cannot be installed on those devices.

Microsoft® Windows®

Internet Explorer®, version 8 or later must be installed. It does not need to be the default browser, and you do not need to use this browser to open WebAssign®.

Mac® OS X

Apple® Safari®, version 5.1 or later must be installed. It does not need to be the default browser, and you do not need to use this browser to open WebAssign®.

See Also:
Work on an Assignment with LockDown Browser on page 40

1

Get Started

This chapter contains the following topics:

Use WebAssign® to work on your assignments, quizzes, and tests — whatever your instructor sets up for you — at any time of the day or night. Depending on how your instructor uses WebAssign®, you can also see your scores and completely graded assignments. All you need is a computer with a connection to the Internet and a Web browser.

Your instructor creates your assignments, schedules them, and sets guidelines such as:

- How many times you can submit an assignment.
- If you can have extensions of due dates.
- If you can save your work without submitting it.
- The kind of feedback that you receive after you submit an assignment.

Note: The WebAssign® Customer Support staff cannot give extensions, change your score, give you extra submissions, or help you with the content of your assignments.

To use WebAssign® to complete assignments for a class, you must be enrolled in the class in the WebAssign® system, you must have a WebAssign® user account, and you might also be required to purchase WebAssign® access.

If you do not have either a class key for self-enrollment or a username, institution code, and password, contact your instructor.

Enrollment in WebAssign® Classes

You can be enrolled in a WebAssign® class in one of the following ways:

Self-Enrollment

- You must enroll yourself in the WebAssign® class.
- Your instructor will give you a class key.

class key

A code you use one time to enroll in class. A class key does not verify payment.

Instructor Enrollment

- Your instructor enrolls you in the WebAssign® class.
- Your instructor will give you a new WebAssign® username, institution code, and password.

  Note: If your instructor chose to allow you to create your own initial password, you will receive an email from WebAssign® with instructions.

- You must use the login information provided by your instructor to see your class, even if you have a different WebAssign® account from a previous class.

Automatic Enrollment

- Your school automatically enrolls you in the WebAssign® class after you use the school's enrollment system.
- Schools with automatic enrollment often require you to log in to a school Web site in order to access WebAssign®. If this is the case, ask your instructor for information about how to log in to WebAssign®.

See Also:

Log in on page 5
Change Your Email Address on page 11
Link Multiple Accounts on page 12
Change Your Password on page 12
Reset Your Password on page 14
Purchase WebAssign Access on page 19
Look Up Your Username on page 10
Enrollment in WebAssign Classes from Blackboard on page 196

Enroll Yourself Using a Class Key

If your instructor gives you a WebAssign class key, you can enroll yourself in the WebAssign class roster. If you do not already have a WebAssign account, you can create one after verifying the class key.

class key

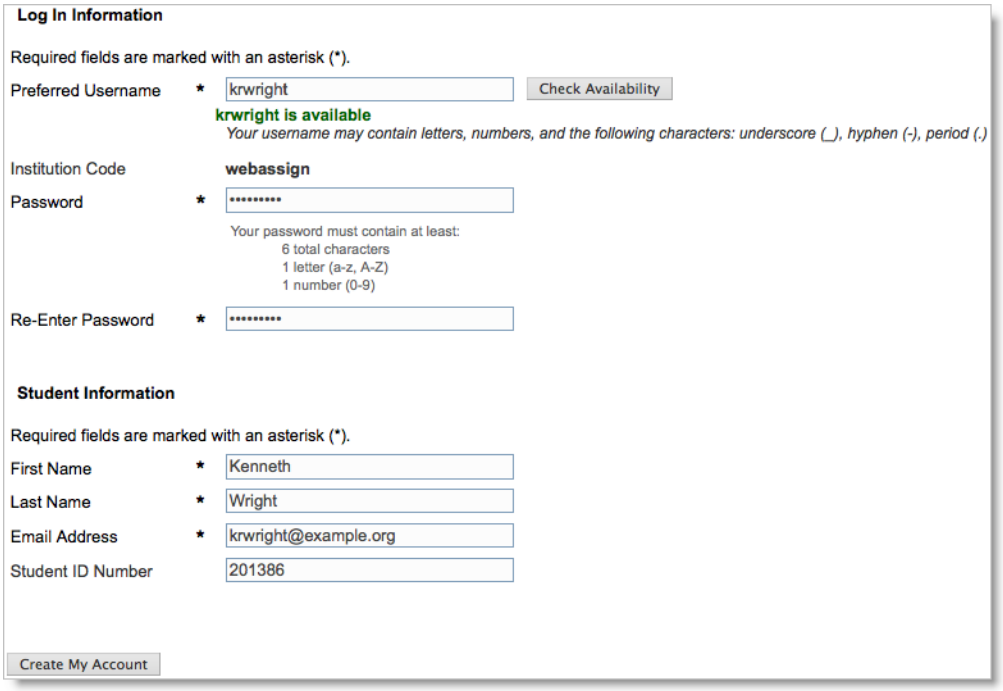
A code you use one time to enroll in class. A class key does not verify payment.

To self-enroll for a class:

1. Go to www.webassign.net and click **Have a class key?**.
2. Enter the class key your instructor gave you and click **Submit**.
3. On the verification page, check the class information and determine whether or not the correct class and section is displayed.
   - If the correct class and section is listed, click **Yes, this is my class**.
   - If the listed class or section is not correct, click **No this is not my class**.

     Try entering your class key again, in case you might have mistyped a character. If the correct class is still not displayed, contact your instructor.
4. If you have an existing WebAssign account, select **I already have a WebAssign account**, type the **Username**, **Institution**, and **Password** for your account, and click **Continue**.
   You are enrolled in the class and logged in to WebAssign using your existing account.
5. If you do not have an existing WebAssign account, you can create one now.

   a) Select **I need to create a WebAssign account**, and then click **Continue**.



b) Type the username that you would like to use for your WebAssign account in the **Preferred Username** field, and click **Check Availability** to see if the username that you want is available.

Usernames in WebAssign® can contain letters, numbers, and the following characters: underscore (_), hyphen (-), and period (.). Usernames are not case-sensitive, so MaryAllen, maryallen, and mArYaLlEn are all the same username.

c) After confirming the availability of your new username, type a password in both the **Choose a password** and **Confirm password** fields.

Ensure that your password meets the displayed requirements, which might be different than those shown above.

Passwords are case-sensitive, so IAmCa3sar is not the same as iamca3sar.

d) Enter your **First Name**, **Last Name**, and **Email Address**, and optionally your **Student ID Number**.

e) Click **Create My Account**.
WebAssign confirms that your account has been created.

You should only enroll in the class once. After enrolling, you might also need to provide an access code to verify payment for the class.

You can click **Log in now** to log in to the new user account and go to your home page. Remember your username and password, because you will need them each time you log in.

Tip:

- If you forget your password, you can reset it.
- If you forget your username, you can look it up.

See Also:
Log in on page 5
Look Up Your Username on page 10
Reset Your Password on page 14

Log in

For most institutions, you can log in to WebAssign® at www.webassign.net.

Some institutions, departments, or instructors might log in to WebAssign® differently. You might log in through your school's authentication server, or using a course management system like Blackboard.

Note: Depending on how you are enrolled in your classes, you might receive a WebAssign® username and password from your instructor or your school, or you might create your own WebAssign® username and password when you self-enroll in a class using a class key.

To log in to WebAssign®, you must supply three credentials:

Username

Your username is unique at your institution.

Depending on how you are enrolled in your WebAssign® classes, you might have more than one WebAssign® username. Be sure to log in using the correct username and password for the class you are trying to access.

Tip: You can link your WebAssign® accounts so you only need to remember one username and password.

For more information about how to look up your username see Look Up Your Username on page 10.

Institution

The institution code is a shortened form of your school's official name. You should be given your institution code with your WebAssign® username.

If you do not know your institution code, click **What is my institution**. In the What's My Institution Code window, type your school name and click **go**. Find the institution code for your school and click **Close This Window**.

Password

Your password protects your privacy and your work in WebAssign®. If you have forgotten your password, you can reset it.

For more information about how to reset your password see Reset Your Password on page 14

Before logging in to WebAssign® on a shared computer, such as a lab or library computer, exit all open Web browsers. Then, open a new browser session to start using WebAssign®.

To log in to WebAssign® (most institutions):

1. Go to www.webassign.net.

2. Type your **Username**, **Institution** code, and **Password**.
3. Click **Log In**.

Important:

- The first time you log in to any WebAssign® account, set your email address and change your password.
- After you finish working in WebAssign®, log out of WebAssign® and exit the browser completely. This helps ensure that nobody else can access your account.

See Also:

Enrollment in WebAssign Classes on page 2
Change Your Email Address on page 11
Link Multiple Accounts on page 12
Change Your Password on page 12
Reset Your Password on page 14
Purchase WebAssign Access on page 19
Look Up Your Username on page 10
Access WebAssign from Blackboard on page 196

Other WebAssign® Login Sites

Students and instructors at the following institutions might log in using Blackboard or a different Web address than www.webassign.net.

Institution	Login Information
Adrian College	Use Blackboard or www.webassign.net, depending on the class.
Alabama A&M University	Use Blackboard or www.webassign.net, depending on the class.
Alabama State University	Use Blackboard or www.webassign.net, depending on the class.
Arkansas State University	Use Blackboard or www.webassign.net, depending on the class.
Arkansas State University, Mountain Home	Use Blackboard or www.webassign.net, depending on the class.
Athens State University	Use Blackboard or www.webassign.net, depending on the class.
Auburn University at Montgomery	Use Blackboard or www.webassign.net, depending on the class.
Auckland University of Technology	Use Blackboard or www.webassign.net, depending on the class.
Bentley University	Use Blackboard or www.webassign.net, depending on the class.
Boise State University	Use Blackboard or www.webassign.net, depending on the class.
Carnegie Mellon University	Use Blackboard or www.webassign.net, depending on the class.
Central Carolina Community College	Use Blackboard or www.webassign.net, depending on the class.
Clemson University	Use Blackboard or www.webassign.net, depending on the class.
Cleveland Community College	Use Blackboard or www.webassign.net, depending on the class.

Institution	Login Information
Columbus State Community College	Use Blackboard or www.webassign.net, depending on the class.
Community College of Baltimore County	Use Blackboard or www.webassign.net, depending on the class.
Florida A&M University	Use Blackboard or www.webassign.net, depending on the class.
Florida State University	Use Blackboard or www.webassign.net, depending on the class.
Foothill College	Use Blackboard or www.webassign.net, depending on the class.
Freed-Hardeman University	Use Blackboard or www.webassign.net, depending on the class.
Fresno City College	Use Blackboard or www.webassign.net, depending on the class.
Gardner-Webb University	Use Blackboard or www.webassign.net, depending on the class.
Georgia Institute of Technology - Physics Department	Use www.webassign.net/gatech/login.html or www.webassign.net, depending on the class.
Grand Valley State University	Use Blackboard or www.webassign.net, depending on the class.
Grayson County Community College	Use Blackboard or www.webassign.net, depending on the class.
Hillsborough Community College	Use Blackboard or www.webassign.net, depending on the class.
Hodges University	Use Blackboard or www.webassign.net, depending on the class.
Illinois Institute of Technology	Use Blackboard or www.webassign.net, depending on the class.
Indiana University - Purdue University, Fort Wayne	Use Blackboard or www.webassign.net, depending on the class.
Johnston Community College	Use Blackboard or www.webassign.net, depending on the class.
Kaskaskia College	Use Blackboard or www.webassign.net, depending on the class.
Kennebec Valley Community College	Use Blackboard or www.webassign.net, depending on the class.
Kettering University	Use Blackboard or www.webassign.net, depending on the class.
Lamar University	Use Blackboard or www.webassign.net, depending on the class.
Mary Institute and St. Louis Country Day School	Use www.webassign.net/micds/login.html or www.webassign.net, depending on the class.
Mississippi Virtual Community College System	Use Blackboard or www.webassign.net, depending on the class.
Moody Bible Institute	Use Blackboard or www.webassign.net, depending on the class.
Montgomery College	Use Blackboard or www.webassign.net, depending on the class.
Morehead State	Use Blackboard or www.webassign.net, depending on the class.
Murray State University	Use Blackboard or www.webassign.net, depending on the class.
Muskegon Community College	Use Blackboard or www.webassign.net, depending on the class.
North Carolina State University	Use www.webassign.net/ncsu/login.html.
North Platte Community College	Use Blackboard or www.webassign.net, depending on the class.

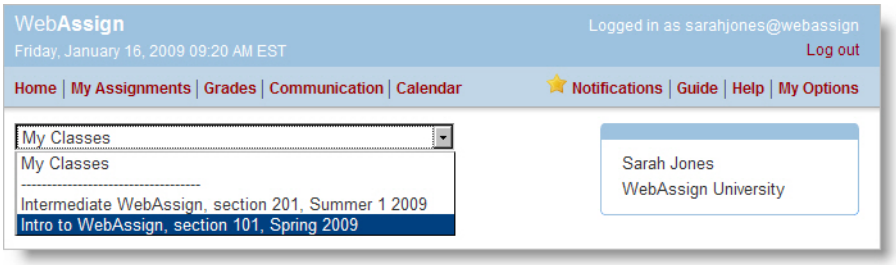
Institution	Login Information
Northeast Texas Community College	Use Blackboard or www.webassign.net, depending on the class.
Northern Oklahoma College	Use Blackboard or www.webassign.net, depending on the class.
Northwestern University	Use Blackboard or www.webassign.net, depending on the class.
Ohio University	Use Blackboard or www.webassign.net, depending on the class.
Ohio State University	Use www.webassign.net/osu/login.html.
Oklahoma State University - Math Placement	Use www.webassign.net/okstate/mathplacement.html or www.webassign.net, depending on the class.
Penn State University	Use www.webassign.net/psu/login.html or www.webassign.net, depending on the class. **Note:** World campus uses www.webassign.net.
Purdue University	Use Blackboard, or www.webassign.net/purdue/login.html, or www.webassign.net, depending on the class.
Princeton University	Use Blackboard or www.webassign.net, depending on the class.
Richard Stockton College of NJ	Use Blackboard or www.webassign.net, depending on the class.
Ryerson University, Canada	Use Blackboard or www.webassign.net, depending on the class.
Siena College	Use Blackboard or www.webassign.net, depending on the class.
Southwestern Assemblies of God University	Use Blackboard or www.webassign.net, depending on the class.
St. Edward's University	Use Blackboard or www.webassign.net, depending on the class.
St. Joseph's College	Use Blackboard or www.webassign.net, depending on the class.
Stony Brook University	Use Blackboard, or www.webassign.net/sunysb/login.html, or www.webassign.net, depending on the class.
Strayer University	Use Blackboard or www.webassign.net, depending on the class.
Tallahassee Community College	Use Blackboard or www.webassign.net, depending on the class.
Tarleton State University	Use Blackboard or www.webassign.net, depending on the class.
TCI College of Technology, NYC	Use Blackboard or www.webassign.net, depending on the class.
Texas A & M	Use www.webassign.net/tamu/login.html or www.webassign.net, depending on the class.
Texas A & M, Corpus Christi	Use Blackboard or www.webassign.net, depending on the class.
The University of Tulsa	Use Blackboard or www.webassign.net, depending on the class.
Treasure Valley Community College	Use Blackboard or www.webassign.net, depending on the class.
Troy University	Use Blackboard or www.webassign.net, depending on the class.
Ultimate Medical Academy	Use Blackboard or www.webassign.net, depending on the class.
University of Alabama at Birmingham	Use www.webassign.net/uab/login.html or www.webassign.net, depending on the class.

Institution	Login Information
University of Alabama, Tuscaloosa	Use Blackboard or www.webassign.net, depending on the class.
University of Alaska, Fairbanks	Use Blackboard or www.webassign.net, depending on the class.
University of California, Merced	Use ucmcrops.ucmerced.edu/xsl-portal/ or www.webassign.net, depending on the class.
University of California, Riverside	Use Blackboard or www.webassign.net, depending on the class.
University of Cincinnati	Use Blackboard or www.webassign.net, depending on the class.
University of Connecticut	Use Blackboard or www.webassign.net, depending on the class.
University of Colorado	Use www.webassign.net/colorado/login.html.
University of Florida	Use www.webassign.net/ufl/login.html or www.webassign.net, depending on the class.
University of Houston	Use Blackboard or www.webassign.net, depending on the class.
University of Maryland, Math Department and Math Placement	Use www.webassign.net/umd/login.html or www.webassign.net, depending on the class.
University of Massachusetts Online	Use Blackboard or www.webassign.net, depending on the class.
University of Michigan, Flint	Use Blackboard or www.webassign.net, depending on the class.
University of Missouri, St. Louis	Use Blackboard or www.webassign.net, depending on the class.
University of Nebraska, Lincoln	Use Blackboard or www.webassign.net, depending on the class.
University of North Carolina, Greensboro	Use Blackboard or www.webassign.net, depending on the class.
University of North Texas	Use Blackboard or www.webassign.net, depending on the class.
University of Oregon	Use Blackboard or www.webassign.net, depending on the class.
University of Pittsburgh	Use Blackboard or www.webassign.net, depending on the class.
University of Pretoria, South Africa	Use Blackboard or www.webassign.net, depending on the class.
University of Tennessee, Knoxville	Use Blackboard or www.webassign.net, depending on the class.
University of Texas at Dallas	Use Blackboard or www.webassign.net, depending on the class.
University of Utah	Use www.webassign.net/utah/login.html.
University of Virginia	Use www.webassign.net/uva/login.html or www.webassign.net, depending on the class.
University of Washington	Use www.webassign.net/washington/login.html.
University of Wisconsin, Madison	Use Blackboard or www.webassign.net, depending on the class.
Virginia Wesleyan College	Use Blackboard or www.webassign.net, depending on the class.
Wake Technical Community College	Use Blackboard or www.webassign.net, depending on the class.
Wharton County Junior College	Use Blackboard or www.webassign.net, depending on the class.

See Also:
Use WebAssign in a Blackboard Course on page 195

Your Home Page

After you log in, you see your personalized WebAssign® Home page. If you are listed on more than one class roster with the same username, or if you have linked multiple WebAssign® accounts, you can select a class from the **My Classes** menu to go to the Home page for that class.



On your Home page for a particular class, you can see summary information for the class, including:

- Announcements from your instructor
- A list of your current assignments
- Links to calendar and communication pages
- Your posted grades for the class

At the top of the Home page, a menu provides quick access to pages for your assignments, grades, communication, calendar, notifications, help, and options.

Your WebAssign® Account

You can update your email address and password for a WebAssign® account or link multiple WebAssign® accounts to use a single username and password.

Look Up Your Username

If you forget your username you can use the email address associated with your WebAssign® account to retrieve it.

To look up your username:

1. Go to www.webassign.net.
2. Click **Forgot your username?** under the **Username** box.
3. Enter the email address associated with your WebAssign® account.
4. Click **Submit**.
   An email containing your username and institution is sent to the email address you provided.

Note: If you have provided an email address that is not associated with a WebAssign® account, or an invalid email address, you will not receive an email.

Change Your Email Address

In most cases you can change your email address. However, your school might have disabled your ability to change the email address associated with your account.

Note: Only your instructor and authorized WebAssign® Customer Support personnel will be able to send email to your email address. WebAssign® will not disclose your email address to third parties except as required by law. In no event will WebAssign® violate the federal privacy rights of students as established by the Family Educational Rights and Privacy Act (FERPA) at 20 U.S.C. 1232g and 34 C.F.R. part 99. For more information about the use of your personal information, see the WebAssign® privacy policy at www.webassign.net/info/privacy.html.

Once you add your email address to WebAssign® you can:

- Easily reset your password if you forget it
- Receive messages that your instructor sends you from their WebAssign® pages
- Receive notifications of assignment due dates, announcement posts, and extension and help requests

To view or change your email address:

1. Click **My Options** in the top right of your WebAssign® page.
2. Click the **Personal Info** tab if not already selected.

   The email address for your WebAssign® account is displayed in the Email Address field.
3. In **Email Address**, either edit or enter your email address.
4. In **Password**, enter your password.
5. Click **Save**.
   WebAssign® sends a confirmation message to the email address you just entered.
6. Check the email address you entered for the confirmation message, and click the link in the message to confirm the email address change.

   Your email address is updated in the WebAssign® system only after you click the link in the confirmation message.

Link Multiple Accounts

If you have more than one WebAssign® account for the same institution, you can link them so you can log in to all of them using any of your usernames and passwords. This way, you do not need to remember a separate login for each WebAssign® account you have.

Note: If you log in through your school's Web site instead of www.webassign.net, it is unlikely that you have more than one WebAssign® account. However, if this is the case, you will not be able to link your accounts.

The information you have in different accounts remains separate when you link accounts — the only thing that changes is that all of the classes for all of your linked WebAssign® accounts will be displayed whenever you log in to any of those accounts.

To link your accounts:

1. Log in to WebAssign® using one of your username and password combinations.
2. Click **My Options** in the menu bar.
3. Click the **Accounts** tab.
4. Under **Link Accounts**, enter the username and password of the WebAssign® account you are linking to. You can link more than one account.
5. Enter the password for the account you are logged in with, and click **Save** to save your changes.

Example

One of your WebAssign® accounts has a username you cannot easily remember, such as **zh7yz123**. The login information for the account you are signed into right now (**krwright**) is the one you want to use for all of your accounts.

In this example, you would enter the username **zh7yz123** and the password for **zh7yz123** in the Link Accounts section, and then you would enter the password for the current account (**krwright**) in the **Password** field at the bottom of the window and click **Save**.

Change Your Password

You should change your password occasionally to ensure the security of your WebAssign® account.

Note: If WebAssign® uses your institution's authentication server, use your school's method for changing your password.

Depending on your school, different password rules apply. When you change your password, the minimum password rules for your school are displayed.

Your password is case-sensitive, so, for example, **`1AmCa3s@r`** is not the same as **`1amca3s@r`**.

Tip: Your school's password rules specify only the minimum requirements for your password. You can use the following guidelines to create a stronger password:

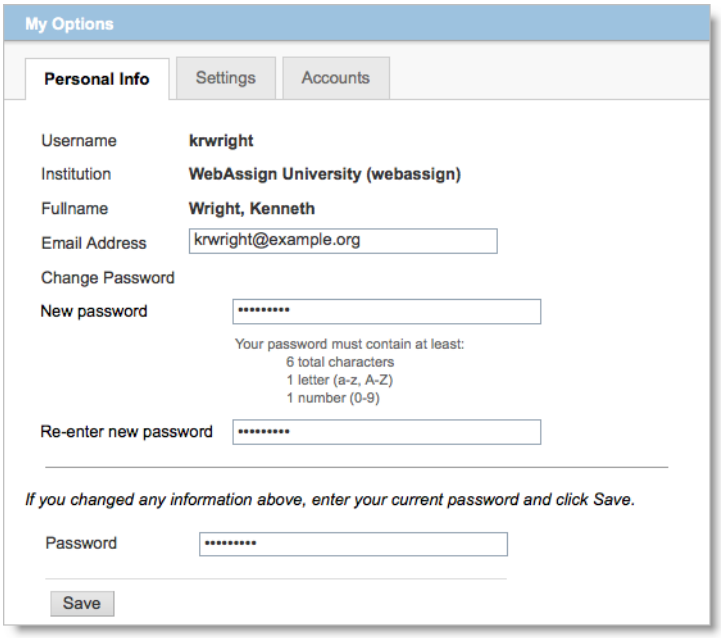
- Use at least 10 characters. Increasing the length of your password increases its strength exponentially. Your password can be up to 30 characters long.
- Use spaces. Using a phrase is one way to increase the length of your password without making it more difficult to remember.
- Use both uppercase and lowercase characters.
- Use two or more numbers.
- Use two or more symbols.

Do not include personally identifiable information like names, ID numbers, phone numbers, or birthdays in your password.

To change your password:

1. After logging in to WebAssign®, click **My Options** in the top right.
2. Click the **Personal Info** tab if not already selected.
3. In **Change Password**, enter your new password, and then re-enter it for confirmation.
4. In **Password**, enter your old password.
5. Click **Save**.

A confirmation message verifies that your password was changed or indicates why it was not changed.



See Also:
Reset Your Password on page 14

Reset Your Password

If you forget your password and you have an email account on file in WebAssign®, you can reset your password. You can also use this procedure to set your password if your instructor created an account for you but did not give you a password.

Note: If WebAssign® uses your institution's authentication server, use your school's method for changing your password.

To reset your password:

1. Go to www.webassign.net.
2. Click **Forgot your password** under the **Password** field.
3. Type the **Username**, **Institution** code, and **Email Address** for your WebAssign® account.
4. Click **Submit**.

   If your username, institution, and email address match the entries in your WebAssign® account, you receive an email with instructions for resetting your password.

   Note: If your information does not exactly match the information in your WebAssign® account, or if you have not specified an email address in WebAssign®, ask your instructor to reset your password.

5. In the email message, click the displayed **Reset Password** button or link.
6. On the Set-Password page, type your new password in the **Enter new password** and **Confirm new password** fields.
7. Click **Submit**.

A confirmation message verifies that your password was changed or indicates why it was not changed.

See Also:
Change Your Password on page 12

Calendars

When an instructor schedules an assignment, it is automatically displayed on your calendar. Your calendar shows all of your assignments on their due dates. It also shows class start and end dates as well as any personal calendar events you have added. You can edit or delete any event you have added to your calendar, but you cannot modify instructor events.

View Calendar

Your calendar is easy to navigate.

To use your calendar:

1. From the menu bar, click **Calendar**.

   The calendar is displayed, open to the current month.
2. Click:
   - the left or right arrows to view a different month
   - a date to view details about events on that date or to add a personal calendar event to that date
   - an event to view details about the event or to edit or delete the event

   Note: You can only edit or delete your personal calendar events.

See Also:
Assignments on page 35

Create Calendar Event

You can add events to your calendar. Types of events you might want to add are group meetings, appointments, or office hours.

1. Open the calendar.
2. Click the date to which you want to add an event.

3. Click **New Event**.
4. Enter the details of your event:
    - **Title**: enter a short but descriptive phrase that will remind you of what the event is
    - **Time**: select the time you want the event to start and the number of hours and minutes you expect the event to last. If the event is not time-sensitive, then select the **No specific Time** check box instead.
    - **Description**: enter the event details
5. Click **Save**.

Edit Calendar Event

You can edit calendar events that you have created.

Note: You cannot edit calendar events that are from your instructor, such as assignment due dates.

1. Open the calendar.
2. Click the event you want to edit.
3. Change the event details.
4. Click **Save**.
   The calendar event is changed.
5. Click the month to return to the calendar.

Delete Calendar Event

You can delete any event you have added to your calendar.

Note: You cannot delete events scheduled by your instructor, such as assignment due dates.

1. Open the calendar.
2. Click the event you want to delete.
3. Click **Delete**.
4. A popup is displayed asking if you are sure you want to delete the event. Click **OK**.
   The calendar event is deleted.
5. Click the month to return to the calendar.

Set Up Email Reminders

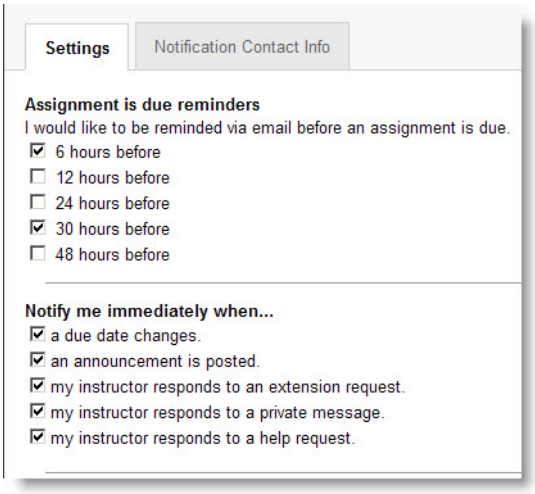
You can receive an email notification stating that an assignment due date is approaching, anywhere from 6 to 48 hours before the assignment is due.

You can also request email notifications to be sent to you when other changes occur, such as when a due date changes, when someone posts an announcement, or when your instructor responds to your extension request, private message, or help request.

Note: You need an email address to receive notifications. If you do not have a valid, confirmed email address on file in WebAssign®, a message is displayed asking you to enter one.

To request email notifications:

1. From the menu, click **Notifications**.
2. On the **Settings** tab, select the number of hours before an assignment is due that you want to receive an email message. You can select more than one time frame.



3. Select when you would like to receive an immediate email message for other changes, such as due date changes, extension request responses, private messages, and help requests.
4. If you have not already entered a valid email address, click the **Notification Contact Info** tab and enter an email address.

   Note: If you need to verify your email address, a **Verify this email address** button is displayed. Click it to verify the address and follow the instructions on the screen.

5. Click **Save** to apply your changes. The window indicates whether your changes have been successfully updated.

Log Out

When you finish working on your assignments, log out of WebAssign® and exit the browser completely to ensure that nobody else can see your work or access your account.

To log out, click **Log out** at the top right.

Note: If you use a browser that is shared by others, make sure the browser does not save your password.

2

Purchase WebAssign® Access

This chapter contains the following topics:

Depending on your school, you will usually be required to purchase access to WebAssign® in order to complete your coursework.

There are several options for payment:

- You can purchase access online directly from WebAssign® using a Visa, MasterCard, American Express, or Discover card, or with a check and a valid PayPal account.
- Your purchase of a new textbook might include a WebAssign® access code card for the course.
- You can purchase WebAssign® access code cards at many campus bookstores.

Note: Rarely, your instructor might need to change the textbooks used for your class after you have purchased access. If this occurs, your payment will be transferred automatically if an equivalent purchase option exists for the new textbooks. If no equivalent option exists, your payment will be refunded and you will need to purchase access to the class again.

Grace Period

If you are required to pay for WebAssign® access to a class, you will have a 14-day grace period during which you can use WebAssign® without purchasing access.

The WebAssign® grace period begins with the class start date set by your instructor.

Note: Your instructor might have set the class start date earlier or later than the actual first day of class.

During the Grace Period

During the grace period, you can complete your coursework in WebAssign®. At the publisher's discretion, you might also have access to the eBook for your class, if one is available.

Each time you access your class, you will be reminded to purchase access or enter an access code.

After the Grace Period

After the grace period ends, you must purchase access online or enter a valid access code before you can continue using WebAssign® for your class.

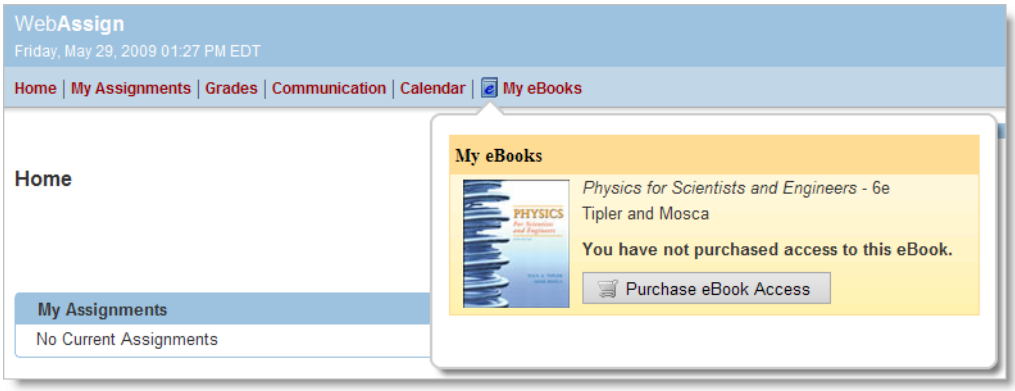
See Also:
Purchase WebAssign Access and eBooks Online on page 23
Enter Access Codes to Verify Purchase on page 25

Choose Between eBooks and Printed Textbooks

eBooks generally contain the complete text of the printed textbook. Some eBooks also contain additional features and content not available in the printed textbook.

Note: Depending on the class, eBook access might be included with WebAssign® access, eBook access might be an optional purchase, or no eBook might be available.

If an eBook is available for any of your classes, **My eBooks** is displayed in your toolbar in WebAssign®. Click **My eBooks** to display a list of the eBooks that are available.



If an eBook is available for your class, you should decide whether to purchase eBook access or the printed textbook before you purchase WebAssign® access for the class. Each format has advantages and disadvantages, and you should determine which will work best for you.

You might want to review the following criteria:

Criteria	eBook	Printed Textbook
Content	• Includes the full text along with all figures and tables. • Often includes additional content which might be interactive.	• Includes the full text along with all figures and tables.
Features	Varies by textbook, but usually includes many of the following: • Bookmarking • Highlighting • Annotating • Printing pages • Searching • Opening from assignment • Navigating using contents or page number • Viewing glossary definitions for terms in context	• Bookmarking • Highlighting • Annotating Highlighting or annotating a printed textbook might reduce its resale value or prevent you from being able to sell it.
Convenience	• With you wherever you have Internet access.	• With you wherever you carry it.
Instructor Preference	• Check with your instructor.	• Check with your instructor.
Requirements	• Most eBooks require either the free Flash plugin or the free Adobe Reader.	• None.
Accessibility	• eBooks can be zoomed to view as large text. • Most eBooks are readable by screen readers.	• Printed textbook might be available in a Braille or audio edition.

Criteria	eBook	Printed Textbook
Cost	• Sometimes included with purchase of WebAssign® access for your course.	• When new, sometimes includes WebAssign® access for one or more terms.
Resale	• Cannot be transferred or sold.	• Can often be sold at end of term for a portion of the purchase price.
Lifetime	• Usually available only while enrolled in a class using that edition of the textbook; some eBooks can be downloaded and saved indefinitely.	• Indefinitely.

Textbook Features, Purchase Options, and Costs

The cost of WebAssign® access is dependent on the textbook selected for the class.

As with printed textbooks, the cost of WebAssign® access, eBooks, or other optional purchases can vary widely between classes. WebAssign® pricing is based on many factors, including agreements with textbook publishers and the quantity and complexity of textbook materials and resources that are available for use in your assignments.

Some textbooks in WebAssign® include traditional end-of-chapter questions but no other features. Other textbooks provide a range of features to help you learn, for example, tutorial questions, eBook links, interactive simulations, personalized study plans, or other learning resources. Access with these textbooks costs more not only because they provide more, but also because they represent a substantial investment by the publisher and WebAssign®.

Some features available in WebAssign® are indicated by icons displayed with the textbook.

Note: Your instructor might not choose to use all of the available features in your class.

Feature	Description
eBook	You have access to an online version of the textbook that might contain additional interactive features. You must be logged in and enrolled in a WebAssign® course to access the eBook. For some textbooks, access to the eBook is an optional purchase.
Lifetime of Edition	You are allowed unlimited access to WebAssign® courses that use this edition of the textbook at no additional cost. This allows you to retake the course until you pass, or to take a multi-term course at no additional cost.
Personal Study Plan	You can use chapter and section assessments to gauge mastery of the material and generate individualized study plans that include various online, interactive multimedia resources.

Feature	Description
Textbook Resources	Additional instructional and learning resources are available with the textbook, and might include testbanks, slide presentations, online simulations, videos, and documents.
Enhanced WebAssign®	Includes advanced content including simulations and textbook examples, links to eBook, algorithmic solutions, for example, from Brooks/Cole Publishers. Specific features vary from book to book.
WebAssign®PLUS	Includes textbook-specific end-of-chapter questions and tutorial exercises, interactive simulations, hints, and feedback to guide learning from John Wiley & Sons, Inc. Publishers.
Premium WebAssign®	Includes interactive exercises with in-depth tutorials and interactive conceptual resources that allow you to visualize concepts and see cause-and-effect relationships through online simulations from W. H. Freeman Publishers.

Purchase WebAssign® Access and eBooks Online

If your textbook did not include an access code card for WebAssign®, or if you want to use an eBook for your class, you can purchase WebAssign® access or eBooks for your classes online.

WebAssign® uses PayPal to securely process payments. You can make your purchase with a Visa, MasterCard, American Express, or Discover card, or with a check and a valid PayPal account.

Note: Depending on the class, eBook access might be included with WebAssign® access, eBook access might be an optional purchase, or no eBook might be available.

In order to purchase or use an eBook, you must be currently enrolled in a class in WebAssign that uses that textbook.

To purchase WebAssign® access online:

1. Log in to WebAssign®.
2. If necessary, select your class.

   If you need to purchase access, a notice is displayed indicating when your grace period expires and listing your payment options:

   - purchase access online
   - enter an access code
   - continue my trial period

   After the end of the grace period, you must either purchase access online or enter an access code.
3. Select **purchase access online**.

4. Click **Continue**.

   For some institutions, particularly schools using WebAssign® in Blackboard, a message is displayed.

   > WebAssign uses Paypal to process payments. For security, your transaction will be completed in a new browser window.

   If this message is displayed, click **Complete My Purchase on PayPal**. A new browser window or tab opens for you to complete your purchase.

   All of the classes for which you need to purchase access are listed. For some classes, you might be able to select among two or more options — for example, if you can purchase an optional eBook or Lifetime of Edition access.

5. Select the items you want to purchase.

   a) Select the check box for each class for which you will purchase access.

   b) If needed, select optional purchases for your classes.

   c) If needed, read and confirm your agreement to any license agreements.

      Click the name of the license agreement to view it. Select the check box to confirm that you agree to its terms.

6. Click **Enter payment information**.

   A PayPal payment page opens.

7. In the PayPal page, provide your payment and contact information.

To do this	Do this
Pay with a credit card	1. Click **Don't have a PayPal account**. 2. Enter the requested billing and contact information. 3. Click **Review and Continue**. 4. Verify that your address and payment information is correct. 5. Click **Continue**.
Pay with your PayPal account	1. Click **Pay with my PayPal account**. 2. Log in to your PayPal account. 3. Verify that your address and payment information is correct. 4. Click **Continue**.
Pay with a check	Log in to your PayPal account and follow the instructions provided on the site. **Note:** A PayPal account is required to pay with a check.

> **Note:** The payment information page is currently provided by PayPal and is subject to change without notice.

8. Review your order and click **Complete purchase**.

   Depending on your address and what you are purchasing, some or all of your order might be subject to sales tax.

   After clicking **Complete purchase**:

   - Your account is billed.
   - An email about the transaction is sent to you.
   - You are granted access to the purchased items.
   - Your receipt is displayed.

9. Click **Print receipt** to print the receipt for your records.

   > **Note:**
   > - If you need to contact WebAssign® Customer Support regarding this transaction, please provide the transaction ID from your receipt.
   > - If you drop a class, you can request a refund within 14 days of the purchase date.

10. Close your receipt to start working in WebAssign.
    - Unless you needed to open a new browser window or tab, click **Close**.
    - If you needed to open a new browser window or tab, close it now. Your original browser window or tab should display the message Did you successfully purchase WebAssign access? Click **Yes, start using WebAssign**.

You have access to the classes or eBooks that you purchased for the duration of the terms for which you purchased them.

See Also:

Request a Refund on page 27

Grace Period on page 20

Submit a request to WebAssign® Customer Support at webassign.force.com/wakb2/?cu=1&fs=ContactUs&l=en_US

Enter Access Codes to Verify Purchase

If an access code card was included with your textbook, or if you purchased an access code card in your bookstore, you can enter it in WebAssign® to verify payment for the class.

access code

A code included with some textbooks that verifies you have already purchased WebAssign® access.

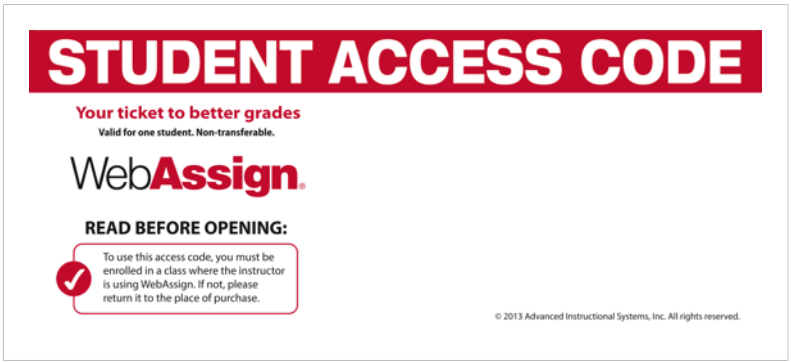
Access code cards can sometimes be purchased at school bookstores.

Usually, an access code is valid only for one term and one class. Occasionally, a textbook includes a multi-term access code. Such a code typically includes either 2S or 3Q in the prefix, indicating two semesters or three quarters, respectively.

Important: Make sure that your access code card prefix is valid for your class before you open it. Check your access code card prefix or look up the access code card prefix you need before you purchase it at: webassign.net/user_support/student/cards.html.

If your access code was provided on a card (either with your textbook or purchased from your school bookstore), scratch off the silver coating to reveal the access code. Access codes provided on these cards should begin with two or three letters followed by ten additional characters.

Some access codes come in a security envelope and begin with a longer prefix, such as McGraw-2S/3Q, followed by four sets of four characters. If you receive a security envelope access code card, open it to reveal the access code.



To enter your access code:

1. Log in to WebAssign®.
2. If necessary, select your class.

   If you need to purchase access, a notice is displayed indicating when your grace period expires and listing your payment options:

   - purchase access online
   - enter an access code
   - continue my trial period

After the end of the grace period, you must either purchase access online or enter an access code.

3. Select **enter an access code**.
4. Select your access code prefix from the **Choose your access code prefix** drop-down list.

   If your prefix is not listed, your access code might not be valid for this class.

   Note: Access codes are *not* interchangeable from class to class.

   If you believe that you have a valid access code for your class and the prefix is not listed, either notify your instructor or contact WebAssign® Customer Support.
5. Enter your access code in the boxes and click **Continue**.

If your access code is valid, a message confirms that you have successfully entered an access code. You will not see the notice about entering an access code again for this class.

See Also:

Grace Period on page 20

Submit a request to WebAssign® Customer Support at webassign.force.com/wakb2/?cu=1&fs=ContactUs&l=en_US

Request a Refund

If you drop a class, you can request a refund within 14 days of the purchase date.

Note: WebAssign® cannot provide refunds for printed textbooks or access code cards purchased from your campus bookstore.

To request a refund if you drop a class:

1. Go to the WebAssign® refund request page.

   Go to www.webassign.net/user_support/student/request_a_refund.html.
2. Enter the requested information.

   You will need to provide your full name, WebAssign® username, school, email address, instructor and course, and PayPal receipt number.
3. Click **Submit**.

See Also:

WebAssign refund request page at webassign.net/user_support/student/request_a_refund.html

3

eBooks and Resource Materials

This chapter contains the following topics:

Online textbooks — eBooks — are available for some courses in WebAssign®. Your instructor might also have shared additional resource materials, either from the textbook publisher or from other sources.

Note: Depending on the class, eBook access might be included with WebAssign® access, eBook access might be an optional purchase, or no eBook might be available.

Open an eBook

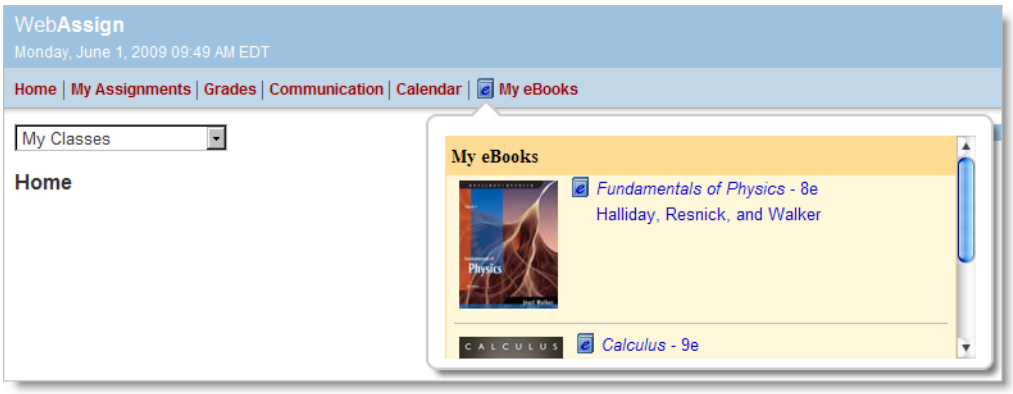
After you have purchased an eBook or WebAssign® access for a class that includes an eBook at no additional charge, you can view the eBook whenever you are logged in to WebAssign® for the duration of the class.

Note: At the publisher's discretion, you might have access to any available eBooks for your class during the grace period.

If an eBook is available for any of your classes, **My eBooks** is displayed in your toolbar in WebAssign®.

To open an eBook you have purchased:

1. Click **My eBooks** to display a list of the eBooks that are available.



2. Click the title of any eBook you have purchased to open it.

   Your eBook opens in a new browser window or tab.

Tip: You can also open a purchased eBook by clicking its title when it is displayed on your class Home page. Some assignment questions might also contain links to the relevant sections of the eBook.

eBook Features

The features and implementation of each eBook is dependent on the publisher. Some eBooks are distributed as Web pages, some are PDF documents, and some use the free Adobe Flash player. Many eBooks include help information from the publisher that describes how to use the features that are available for that eBook.

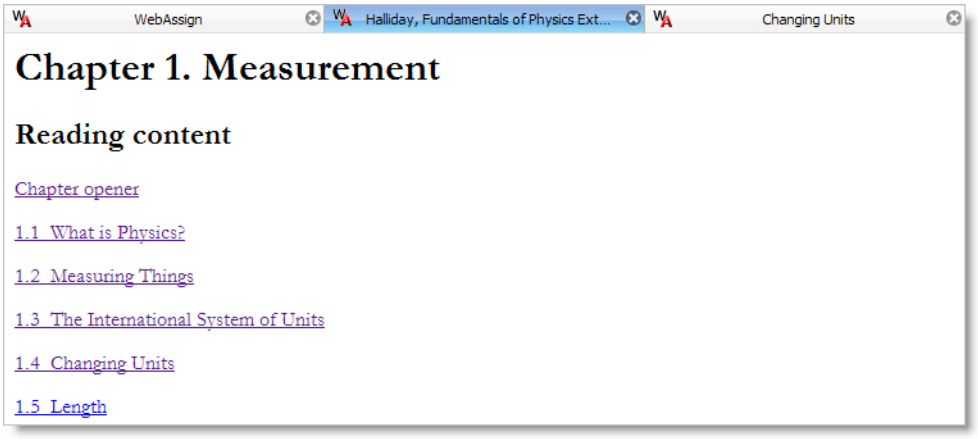
Many eBooks share some of the following characteristics:

- eBooks generally include the complete text of the printed textbook, along with all figures and illustrations.
- eBooks usually have a table of contents that you can click to navigate to specific chapters or sections.
- You can usually search for text in eBooks.

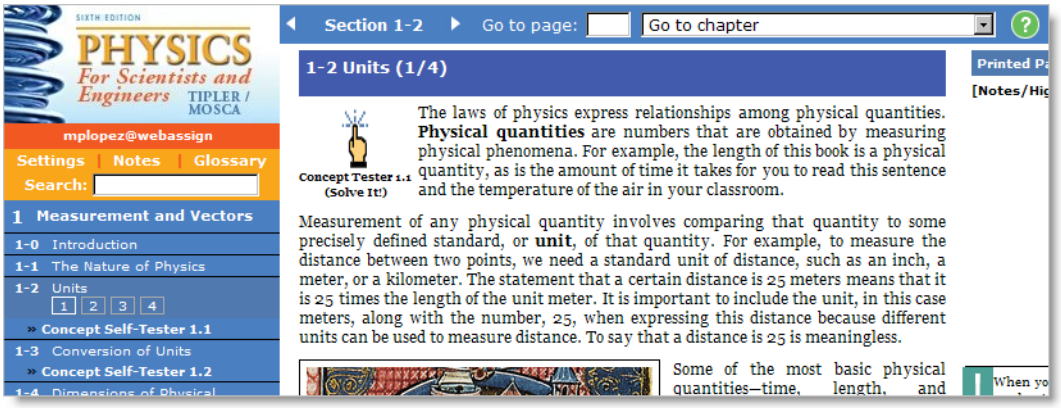
- You can usually navigate to a specific page number by typing the page number in a text box.
- You can often bookmark pages in the eBook.
- You can often add highlighting and notes to the eBook. Your highlighting and notes are saved between sessions and are available to you anytime when you open the eBook.
- You can usually zoom in and out when viewing the eBook.
- You can sometimes click on links in the eBook which open media such as videos. Some of these additional media are interactive.
- You can usually print pages from the eBook.
- You can sometimes save the eBook to your computer for offline viewing.
- eBooks sometimes require either the free Adobe Reader or the free Adobe Flash Player.
- You can sometimes use an interactive glossary or click on certain terms in the text to view the glossary definition.
- Often the eBook will have a toolbar for navigating the eBook and implementing its various features.

The following three figures illustrate some of the differences among eBooks.

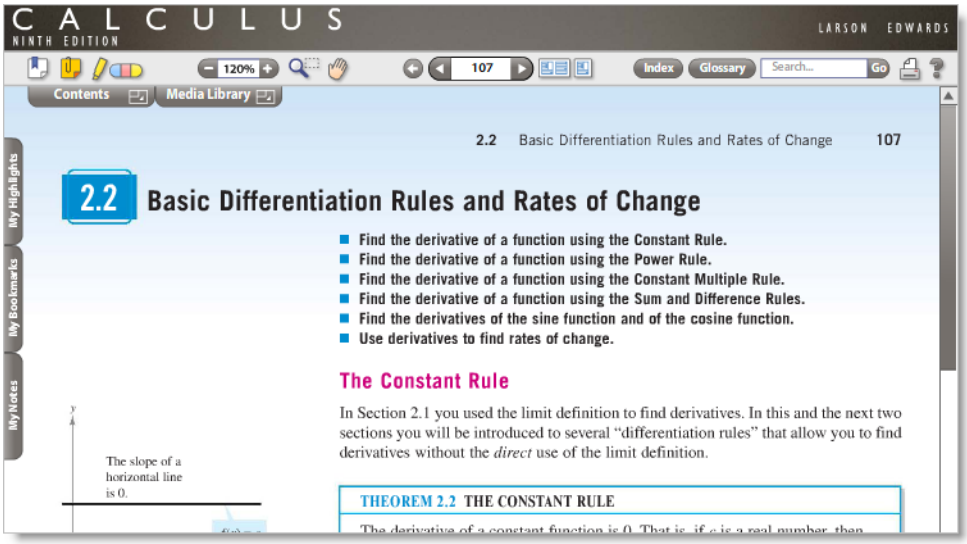
An eBook that opens each section in a separate window or browser tab:



An eBook that includes the navigation, content, search, and other features on a single Web page:



An eBook that uses Adobe Flash to provide features like annotating, bookmarking, and highlighting:



Close an eBook

When you are finished viewing an eBook, remember to close it.

Note: When you log out of WebAssign®, all of your open eBooks are automatically closed.

View Resource Materials

If your instructor has shared resource materials with you in WebAssign®, you can view them from your class Home page.

Informational resources provide you with information you need to know about your class. Examples include syllabi, grading rubrics, or instructions for answering questions.

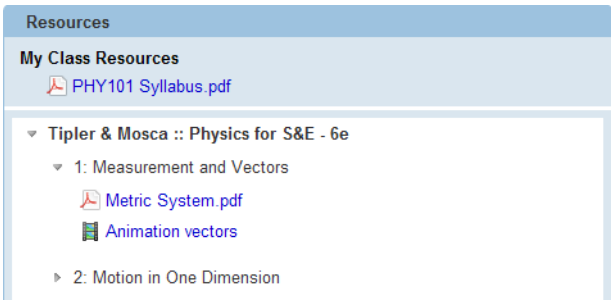
Learning resources help enhance or reinforce your understanding of the course content. Examples include supplemental reading materials, video files to aid in learning a topic, or reference materials such as a table of formulas and constants.

To view resource materials for a class:

1. Click **Home**.

   If necessary, select a class from the **My Classes** menu.

   Any resources your instructor has made available to you are displayed on your Home page for your class in the Resources panel.

   The list of resources might include sections that can be expanded or collapsed.

   - To expand part of the resources list, click the ▸ right arrow icon. The items under the expanded heading are listed.
   - To collapse part of the resources list, click the ▾ down arrow icon. The items under the collapsed heading are no longer displayed.

2. To view a resource, click its title in the Resources panel. Depending on your browser settings, you might have to choose to save or to open the resource. You might also have to choose an application to use when opening the resource.

4

Assignments

This chapter contains the following topics:

Assignments are the work you do for your class in WebAssign®, and might include homework assignments, labs, quizzes, or tests, depending on your instructor.

See Also:

View Assignment Scoring Details on page 165

View Calendar on page 15

View a Summary of Assignments

You can view a summary of your current assignments and due dates on your Home page for a class.

Important: Do not wait until the last minute to submit an assignment. Assignment cutoff times are determined by the clock of the WebAssign server, not by the clock on your computer. Every effort is made to ensure that these server clocks are accurate. If the assignment cutoff time is 10:00 P.M., you can not submit the assignment after 10:00 P.M. according to the WebAssign server, regardless of the time displayed on your computer.

To view a summary of your current assignments:

Click **Home**.

If necessary, select a class from the **My Classes** menu.

Your current assignments for the class are listed in the My Assignments panel along with due dates and icons indicating any assignment restrictions and whether the assignment is a group assignment:

Restriction	Description
Conditional Assignment	If the icon is green, you can open the assignment. If gray, click the icon or the grayed-out assignment name to view the condition you need to meet on a prerequisite assignment in order to open this one. If you can not meet the condition, you might want to contact your instructor to see if you can be waived of the condition.
Group Assignment	You and other group members can all work on the assignment; the assignment score is the same for all group members.
Timed	When you open this assignment, you will have a specified amount of time to complete the assignment. The remaining time will be displayed in the top right corner while you are working on the assignment.
Password Protected	You must enter an assignment password provided by your instructor in order to open this assignment.
IP Address Restricted	You must log in to WebAssign from locations designated by your instructor in order to open this assignment.
WebAssign LockDown Browser Required	You must use WebAssign LockDown Browser for this assignment.

View a Detailed List of Assignments

You can view a detailed list of your current or past assignments on your My Assignments page.

Important: Do not wait until the last minute to submit an assignment. Assignment cutoff times are determined by the clock of the WebAssign server, not by the clock on your computer. Every effort is made to ensure that these server clocks are accurate. If the assignment cutoff time is 10:00 P.M., you can not submit the assignment after 10:00 P.M. according to the WebAssign server, regardless of the time displayed on your computer.

To view a detailed list of your current or past assignments:

1. Click **Home**.

   If necessary, select a class from the **My Classes** menu.

2. In the My Assignments panel, click either **Current Assignments** or **Past Assignments**.

Your current or past assignments for the class are listed in the My Assignments window. Each assignment includes the following information:

- The name of the assignment, such as Homework – Chapter 3.
- The assignment category, such as (Homework), in parentheses after the assignment name.
- Icons indicating any assignment restrictions and if the assignment is a group assignment.

Restriction	Description
Conditional Assignment	If the icon is green, you can open the assignment. If gray, click the icon or the grayed-out assignment name to view the condition you need to meet on a prerequisite assignment in order to open this one. If you can not meet the condition, you might want to contact your instructor to see if you can be waived of the condition.
Group Assignment	You and other group members can all work on the assignment; the assignment score is the same for all group members.
Timed	When you open this assignment, you will have a specified amount of time to complete the assignment. The remaining time will be displayed in the top right corner while you are working on the assignment.
Password Protected	You must enter an assignment password provided by your instructor in order to open this assignment.

Restriction	Description
IP Address Restricted	You must log in to WebAssign from locations designated by your instructor in order to open this assignment.
WebAssign LockDown Browser Required	You must use WebAssign LockDown Browser for this assignment.

- If the assignment is timed, the amount of time you have to complete the assignment.
- The date and time that the assignment is due.
- A description of the assignment, if one was provided by your instructor.
- The score you received on the assignment, if you submitted the assignment and your instructor chose to show you the score.

Note: If a past assignment is not displayed on the list, it is no longer available for review. Contact your instructor to request access to the assignment.

Open an Assignment

You can open an assignment to view it or work on assignment questions from either your Home page or My Assignments page for a class.

To open an assignment:

1. From your Home page or My Assignments page for a class, click the name of the assignment you want to open.
2. If necessary, acknowledge any assignment restriction notices or enter the assignment password and click **Continue**.

   Note: If a conditional release icon is displayed, you must meet a condition on a prerequisite assignment in order to access this one. If the icon is gray, you have not yet met the condition. Click the icon or assignment name for a description. If you need to access a conditional assignment but have not met the condition, contact your instructor. He or she might waive the condition for you.

   The Assignment page opens, showing information about the assignment and the assignment questions.

   At the top of the Assignment page, you can see summary information about the assignment, including your score for the entire assignment and for individual questions, the assignment due date and time, and any assignment instructions or access restrictions that have been added by your instructor.

   The assignment questions are displayed in order after the summary information. For each question, the available and earned points are listed.

See Also:

View Assignment Scoring Details on page 165

Work on a Group Assignment

Some of your assignments might display the group assignment icon to indicate that you will complete this assignment in collaboration with other students in your group.

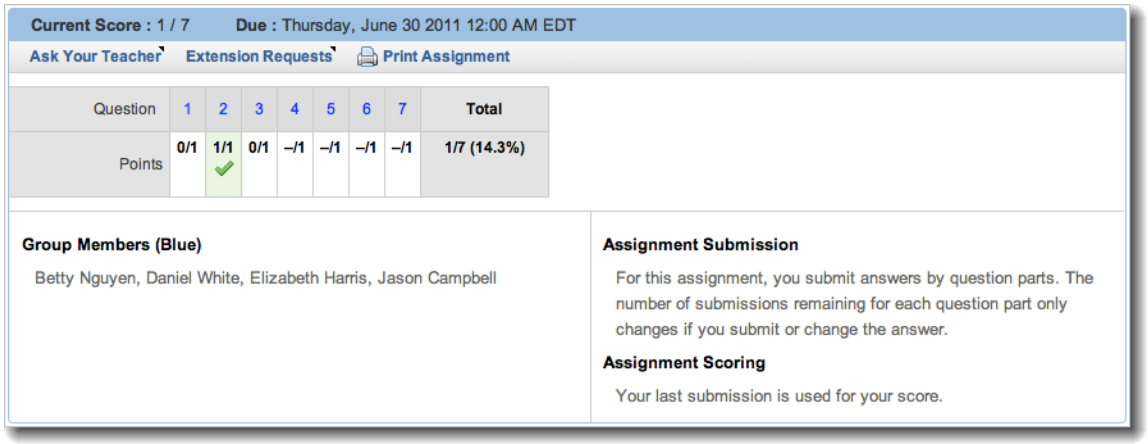
When you are working on group assignments:

- Any member of the group can work on the assignment.
- You will see any responses submitted by other group members.
- You will *not* see notes contributed by other group members.
- All members of the group receive the same score for the assignment, regardless of their individual contributions.

To complete a group assignment:

1. From your Home page or My Assignments page for a class, click the name of the assignment you want to open.
2. Read the notice describing any assignment restrictions.
3. If necessary, enter the assignment password.
4. Click **Continue**.

   The assignment opens. Your group members for the assignment are listed at the top of the assignment.



5. Work on the assignment questions and submit your responses.

Work on an Assignment with LockDown Browser

Some of your assignments might display the LockDown Browser icon to indicate that you must install and use WebAssign® LockDown Browser to complete the assignment.

Important: You can open a LockDown Browser restricted assignment only from WebAssign® supported browsers on Windows or Mac OS X. You cannot open LockDown Browser assignments from an iPad or a Linux/UNIX computer.

To check your system for LockDown Browser or to install LockDown Browser, go to www.webassign.net/user_support/student/lockdown_browser.html.

While you are working on an assignment that requires LockDown Browser, you cannot use other applications, view other Web sites, copy, or print. Also, certain WebAssign® features are not available when using LockDown Browser. These restrictions help to provide a fair testing environment for all students. The restrictions are lifted when you close the assignment by closing LockDown Browser.

To complete an assignment that requires the WebAssign® LockDown Browser:

1. From your Home page or My Assignments page for a class, click the name of the assignment you want to open.

   A restrictions message is displayed indicating that LockDown Browser is required.

2. Click **Continue**.
   LockDown Browser opens.

   Note: If you are using Firefox and cannot open an assignment using LockDown Browser, you must uninstall LockDown Browser and install the latest version or use another supported browser.

3. Click the assignment you want to open.

4. If necessary, enter the assignment password.
   The assignment opens.

5. Work on the assignment questions and submit your responses.

6. When you are finished with the assignment, close LockDown Browser.

   Tip: If the assignment is timed, click the timer to collapse it, and then close LockDown Browser.

See Also:

LockDown Browser Is Not Working Properly on page 206
LockDown Browser System Requirements on page xviii

Work on a Timed Assignment

Some of your assignments might display the timed assignment icon ⌛ to indicate that once you start the assignment, you will have only a limited amount of time to complete it.

To complete a timed assignment:

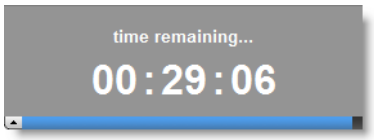
1. From your Home page or My Assignments page for a class, click the name of the assignment you want to open.
2. Read the notice indicating how much time you will have and describing any assignment restrictions.

   Important:

   - Only start a timed assignment if you expect to be able to complete the entire assignment without interruption.
   - You cannot "pause" a timed assignment after you start it.
   - For timed assignments, the time you have to complete the assignment is always the lesser of the allotted time for the assignment and the time remaining until the assignment is due.

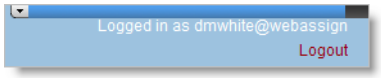
3. If necessary, enter the assignment password.
4. Click **Continue**.

   The assignment opens. The time remaining is displayed in the top right corner of your browser window.

   The timer bar at the bottom of the timer displays a graphical representation of the remaining time relative to the total time allowed for the assignment.

   If you need to click something behind the timer, click the timer bar. The timer text is hidden and only the timer bar is displayed.

   To display the timer text, click the timer bar again.

5. Work on the assignment questions and submit your responses.

   If you are working on the assignment when the time remaining for the assignment reaches zero, all of your responses are automatically submitted so you do not lose any points for unsubmitted responses. As with other assignments, if you log out of WebAssign® or close your browser, your answers are *not* automatically submitted.

Note: After you start a timed assignment, the due date for the assignment indicates the date and time when the timer expires or the original assignment due date, whichever comes first. This lets you know the last time that you can submit the assignment.

See Also:

Problems Working on iPad With Timed Assignments on page 202

Print an Assignment

You can print an assignment by clicking **Print Assignment** at the top of the Assignment page. Using **Print Assignment** formats the assignment to remove buttons and line breaks, and often prints using less paper than just using Print on your Web browser.

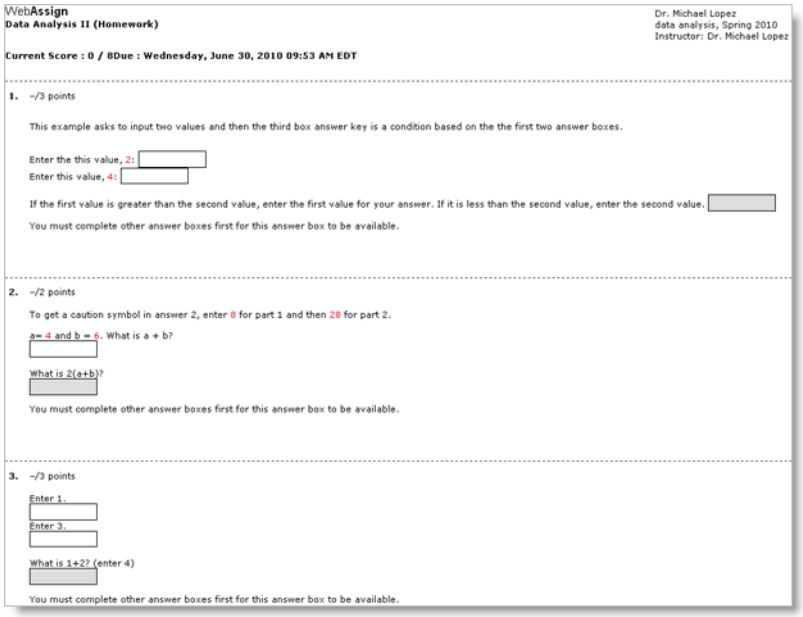
To print an assignment:

1. From your Home page or My Assignments page for a class, click the name of the assignment you want to open.
2. If necessary, acknowledge any assignment restriction notices or enter the assignment password and click **Continue**.
   The Assignment page opens.
3. Click  **Print Assignment**.

   Your browser's print function is displayed.

   Your printed assignment displays summary information about the assignment, including your name, the instructor name, the class name, class section, class term, assignment category, assignment name, and the time and date the assignment was printed.

   Note: Assignments that include large tables, large graphics, or complex layouts wider than the Print Assignment output format might not print as expected. Line breaks might be displayed oddly or text or graphics might be truncated. Changing printer format from Portrait to Landscape might help in some cases.



WebAssign
Data Analysis II (Homework)

Dr. Michael Lopez
data analysis, Spring 2010
Instructor: Dr. Michael Lopez

Current Score : 0 / 8Due : Wednesday, June 30, 2010 09:53 AM EDT

1. –/3 points

This example asks to input two values and then the third box answer key is a condition based on the the first two answer boxes.

Enter the this value, 2:
Enter this value, 4:

If the first value is greater than the second value, enter the first value for your answer. If it is less than the second value, enter the second value.

You must complete other answer boxes first for this answer box to be available.

2. –/2 points

To get a caution symbol in answer 2, enter 8 for part 1 and then 28 for part 2.

a= 4 and b = 6. What is a + b?

What is 2(a+b)?

You must complete other answer boxes first for this answer box to be available.

3. –/3 points

Enter 1.

Enter 3.

What is 1+2? (enter 4)

You must complete other answer boxes first for this answer box to be available.

5

Questions

This chapter contains the following topics:

The section explains the types of questions you may encounter in WebAssign® and general information about saving and submitting questions. You can also find information about showing your work, generating new randomizations, and viewing question feedback and previous answers.

For information about answering a specific question type see either Answer Common Question Types on page 85 or Answer Math and Science Questions on page 95, depending on the type of question you are trying to answer.

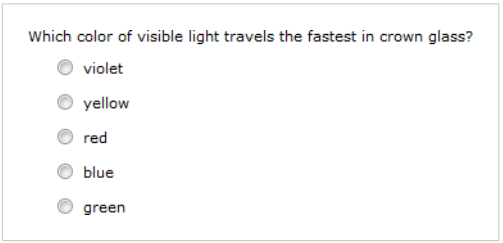
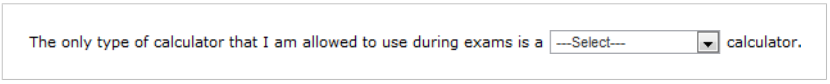
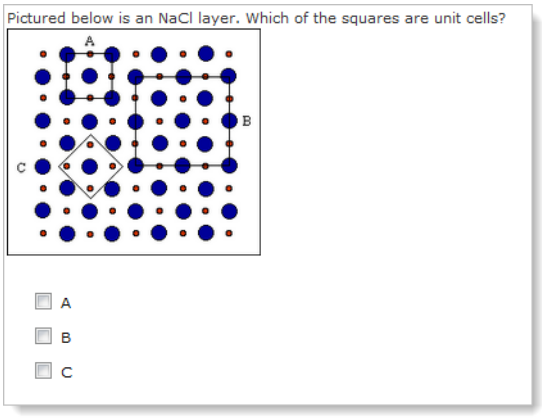
Types of Questions

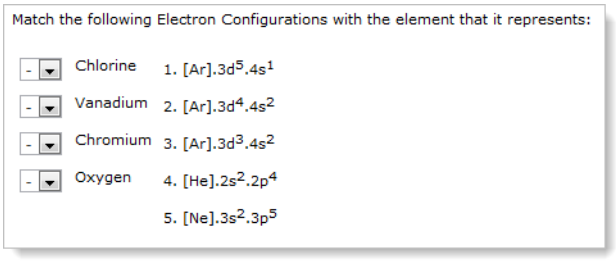
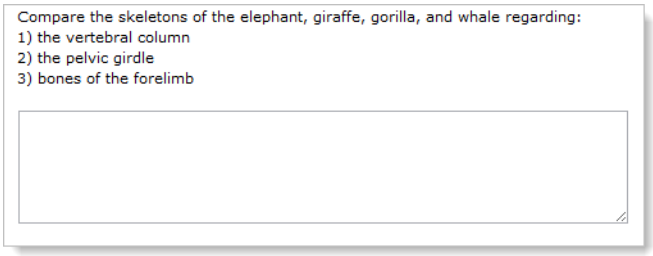
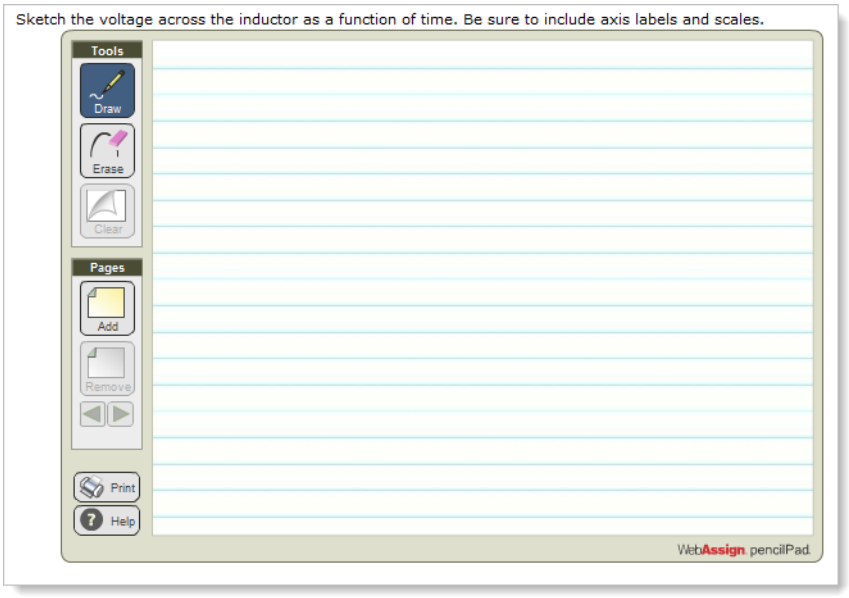
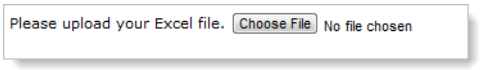
The following table provides a visual reference that you can use to identify the type of question you are trying to answer.

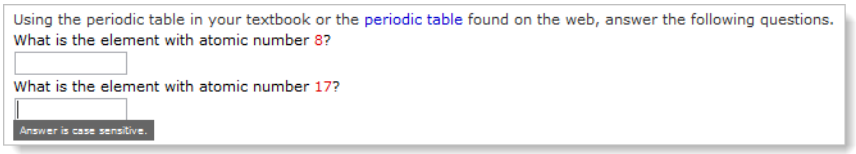
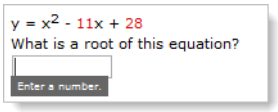
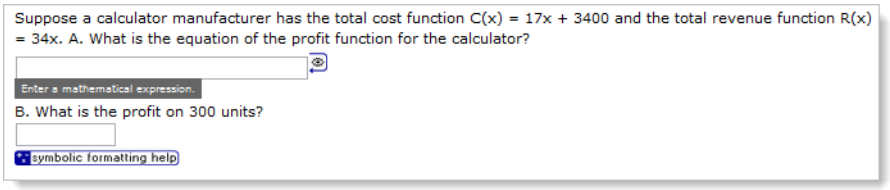
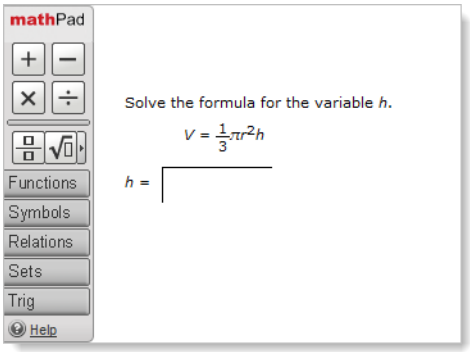
Once you identify the question type, you can click the link in the Question Type column to go directly to the section that describes answering this type of question.

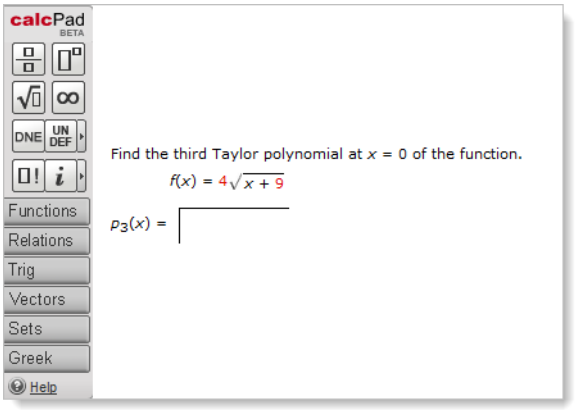
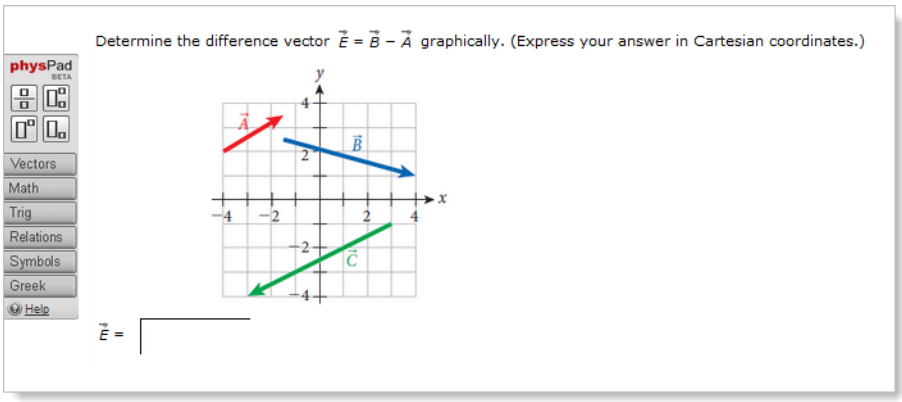
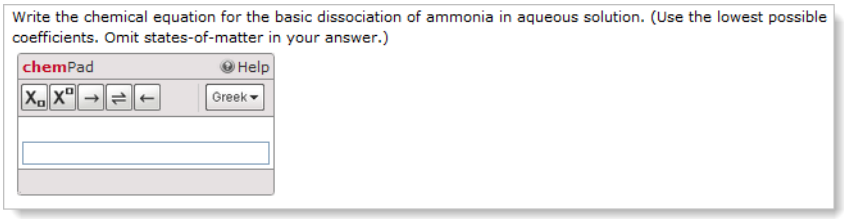
Note:

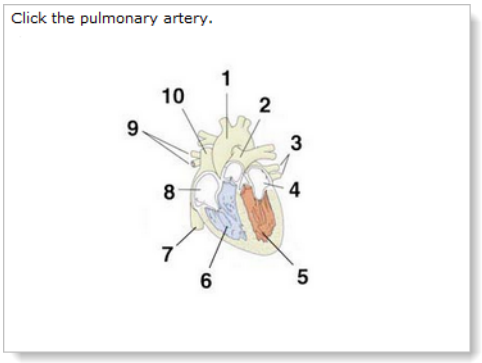
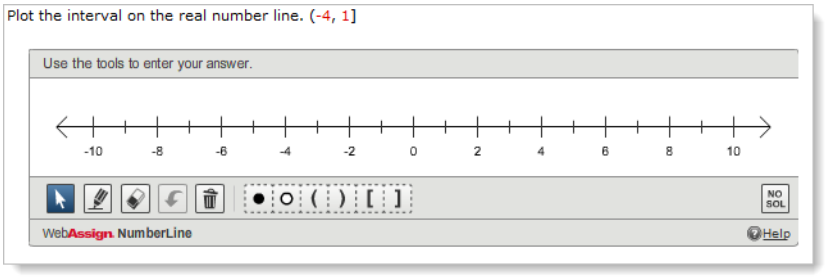
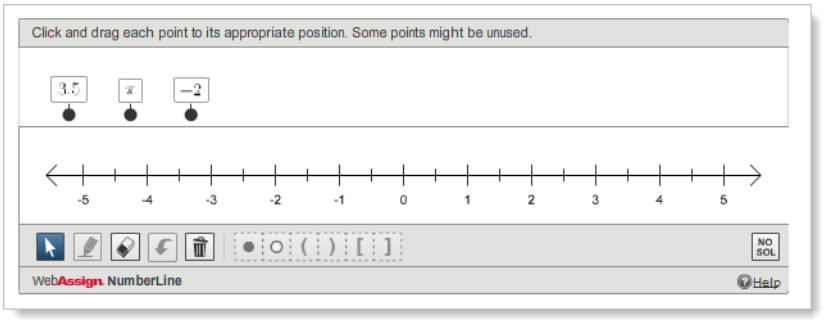
- If a math palette appears when you click in an answer box, then the question is not a fill-in-the-blank question and you should use the appearance of the palette to identify your question type in this table.
- If a question has more than one part, see Answer Matching Questions on page 86 for more information about how to answer the question.

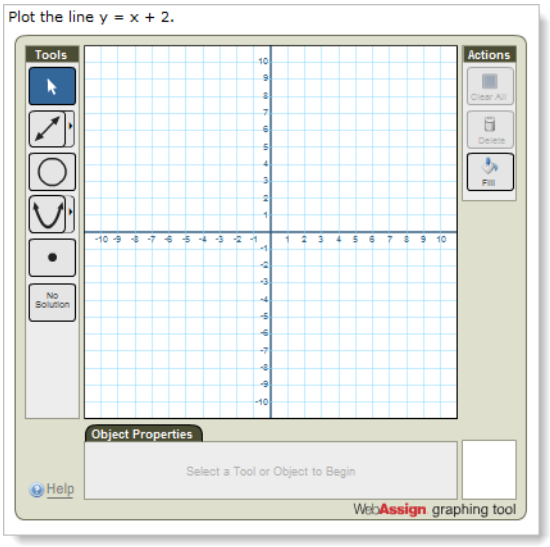
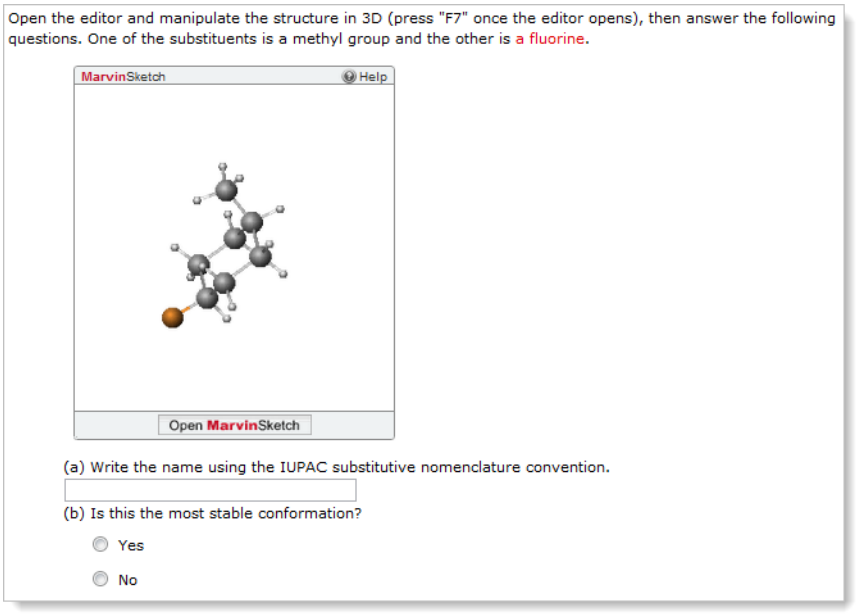
Question Type	Visual Example and Description
Multiple-choice Select a single response from a list of mutually exclusive choices. See Answer Multiple-Choice Questions on page 87.	 
Multiple-select Select one or more responses from a list of non-exclusive choices. See Answer Multiple-Select Questions on page 87	

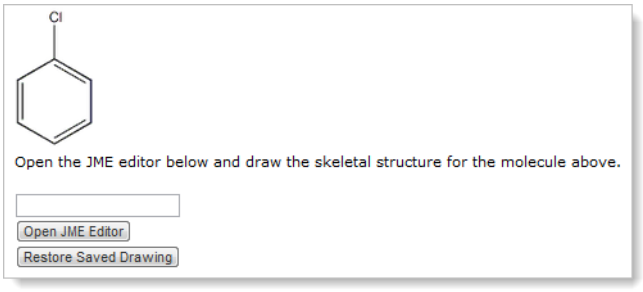
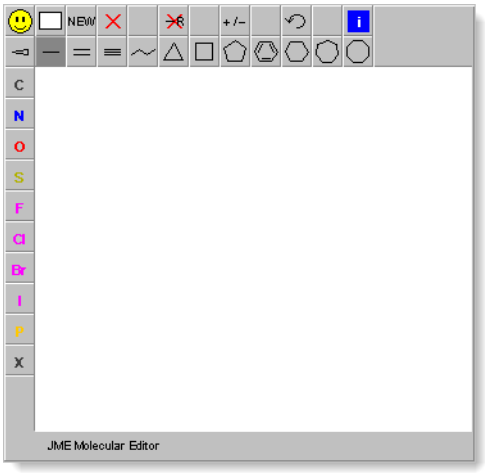
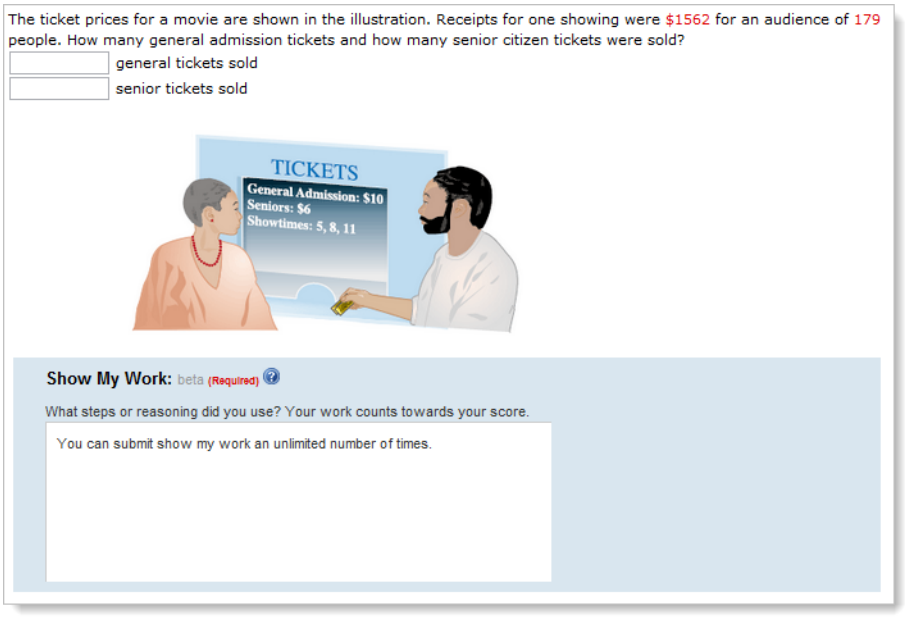
Question Type	Visual Example and Description
Matching Match items in one column to corresponding items in a second column. See Answer Matching Questions on page 86	
Essay Type an answer to the question into the essay box provided. See Answer Essay Questions on page 90	
pencilPad Use the pencilPad to draw a simple figure to respond to the question. See Answer pencilPad Questions on page 88	
File Upload Electronically submit a file containing your work, for example, an Excel spreadsheet or a research paper. See Upload Files for Questions on page 90	

Question Type	Visual Example and Description
Fill-in-the-blank Type a word or short answer into the answer box provided. See Answer Fill-In-The-Blank Questions on page 86	
Numerical Type a numerical answer and optionally a unit. See Answer Numerical Questions on page 96	
Math Questions Using Calculator Notation Type an answer using calculator notation. See Answer Symbolic Questions with Calculator Notation on page 107	
mathPad Use the mathPad tool to enter a correctly formatted mathematical expression See Answer mathPad Questions on page 110	

Question Type	Visual Example and Description
calcPad Use the calcPad tool to enter a correctly formatted mathematical expression. See Answer calcPad Questions on page 118	
physPad Use the physPad tool to enter a correctly formatted mathematical expression that might include symbols used in physics. See Answer physPad Questions on page 127	
chemPad Use chemPad to enter chemical formulas and equations that are automatically displayed in correct chemical notation. See Answer chemPad Questions on page 148	

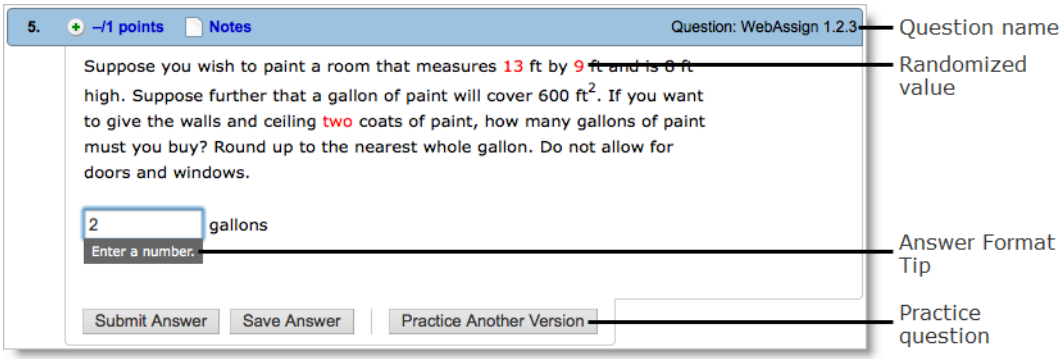
Question Type	Visual Example and Description
Identification Click on the place in the image that answers the question. See Answer Identification Questions on page 88	
NumberLine Default mode: use the WebAssign® NumberLine tool to locate points and graph intervals and inequalities on a number line graph. Points mode: use the WebAssign® NumberLine tool to indicate point positions on a number line graph. See Answer NumberLine Questions on page 136	 

Question Type	Visual Example and Description
Graphing Use the WebAssign® graphing tool to create a graph. See Answering Graphing Questions on page 139	
MarvinSketch Use MarvinSketch to draw chemical structures for your response. MarvinSketch supports drawing and grading of Lewis structures, reactions, and mechanisms. See Answer MarvinSketch Questions on page 150	

Question Type	Visual Example and Description
JME Use the Java Molecular Editor (JME) tool to draw chemical structures for your response. See Answer JME Questions on page 158	 
Show My Work Use Show My Work to demonstrate your reasoning or the process you used to answer the question. See Show Your Work on page 64.	

Question Behaviors

Working on an assignment consists of answering questions on the assignment and then submitting your answers to WebAssign®. Depending on the question, you might type your answer in a text box, select a multiple-choice answer, graph a function, enter chemistry notation, or use a number of other tools to specify your answer. The question might have one part or many parts. A few question behaviors are common to most questions in WebAssign®.



Question Names

The question name is often displayed in your assignment. Because the questions on your assignment might be different from your classmates' assignments, or listed in a different order, always refer to the question name if you need to ask your instructor about a question.

Randomized Values

Randomized values are the variable data in questions. Many questions in WebAssign® use randomized values, which are usually displayed in red. Depending on how your instructor set up the assignment, the randomized values that you see for a question will often be different from the values on your classmates' assignments.

Important: If your instructor enabled it, the randomized values on your assignment, question, or question part might change. Always check your answers to make sure they are based on the information in the question at the time you submit the assignment.

If your instructor has enabled new randomizations, you can use the **New Randomization** button to generate new randomized values in a question after you have reached the set number of available submissions for the current randomized values.

Answer Format Tips

If enabled, answer format tips display information about the kind of answer that is expected (for example, a mathematical expression or a number). Answer format tips are displayed when you click the field or select it using the keyboard.

Practice Questions

If enabled, you can click Practice Another Version to open the question in a new window with different randomized values. This lets you attempt the question without using any submissions or receiving any credit, so you can be sure that you understand the problem before you answer it in your assignment.

Submitting and Saving Answers

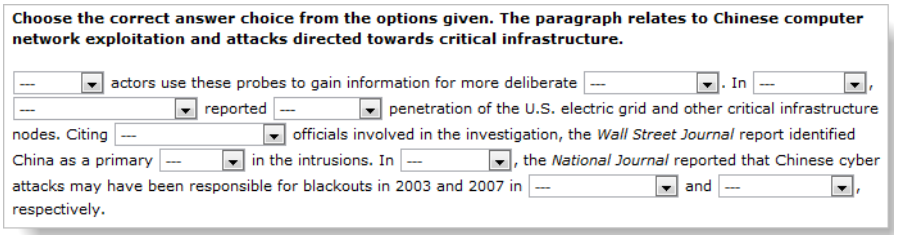
After you answer the question, you can, if enabled, save your answer. You might do this if you are not sure of your answer and want to come back to it later.

Important: In order to receive credit for your answer, you must submit your answer to WebAssign®.

Multiple-Part Questions

Many questions have more than one part. Each part of a multiple-part question can be a different type of question — for example, fill-in-the-blank, multiple-choice, or mathPad.

Be sure to answer every part of a multiple-part question to receive full credit.



See Also:

Answer Scored Tutorial Questions on page 91
Answer Unscored Tutorial Questions on page 92

Submit Your Answers

After answering questions on your assignment, you must submit your answers to WebAssign® to receive credit. Depending on how your instructor set up the assignment, you can often submit answers more than once before the assignment due date. This gives you an opportunity to submit different answers to questions that you answered incorrectly the first time.

Important:

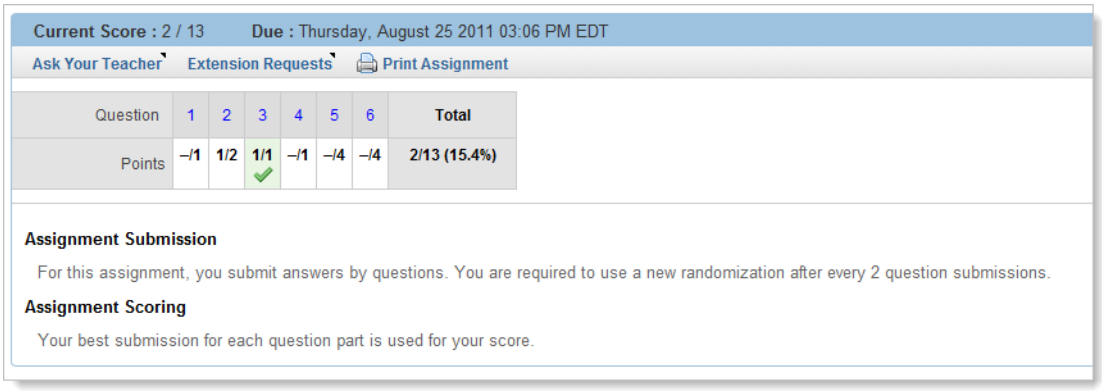
- Your answers are not automatically submitted. To receive credit for your answers, you must submit them.
- Do not wait until the last minute to submit an assignment. Assignment cutoff times are determined by the clock of the WebAssign® server, not by the clock on your computer. Every effort is made to ensure that these server clocks are accurate. If the assignment cutoff time is 10:00 P.M., you can not submit the assignment after 10:00 P.M. according to the WebAssign® server, regardless of the time displayed on your computer.

If enabled for the assignment, you can save your answers so you can revise them later before submitting them to WebAssign®. Your saved answers are not scored and receive no credit.

View Submission Information

Each time you submit answers to WebAssign®, you use a submission. When you have used all of your allowed submissions, you cannot change your answers, even if the assignment due date has not passed. Depending on how your instructor set up the assignment, the number of allowed submissions might be counted for each question part, for each question, or for the entire assignment.

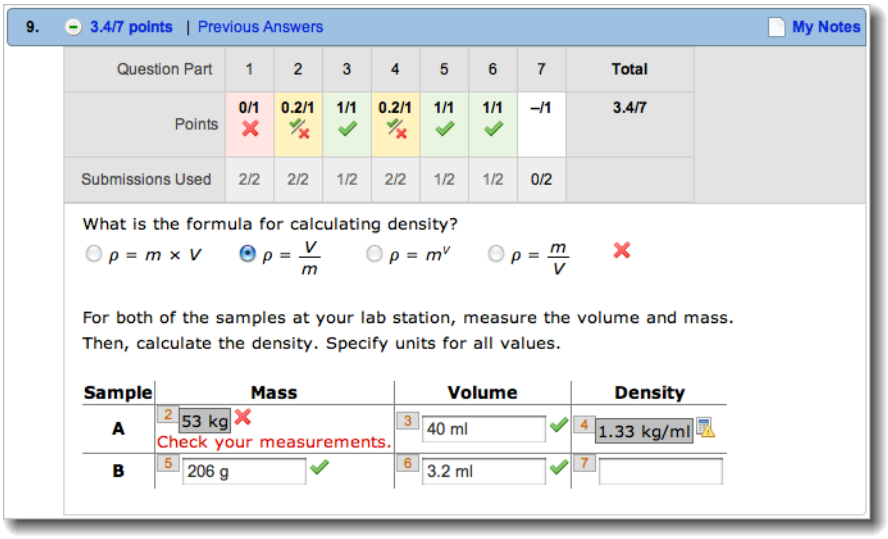
There are three different assignment submission rules. The rule that is used is displayed at the top of your assignment.



Rule 1 You submit answers by question part: for this assignment, the number of submissions for each answer box is counted independently. The number of submissions remaining changes only if you submit a new or changed answer.

With this rule, the following behaviors apply:

- Each question part can have a different number of allowed submissions.
- Each time you submit your answers, only question parts with new or changed answers are submitted.
- No submissions are used for question parts that you did not change.
- To see the used and allowed submissions for each question part, click the plus sign in the question heading. The question parts display numbered labels so you can identify them in the question.



Rule 2 You submit answers by question: for this assignment, once the total number of submissions for a question reaches the number of allowed submissions, you can no longer submit additional answers. The number of submissions remaining changes only if you submit a new or changed answer.

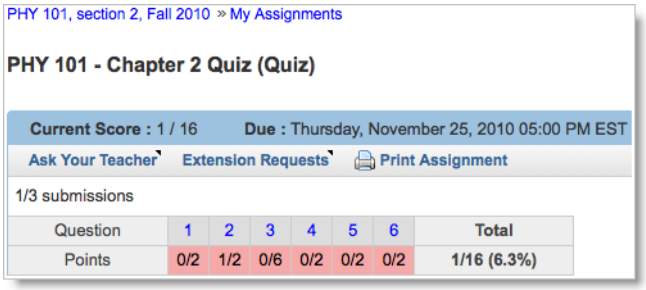
With this rule, the following behaviors apply:

- Each question can have a different number of allowed submissions.
- Each time you submit your answers, only questions with new or changed answers are submitted. However, the entire question is submitted, including unanswered question parts and question parts for which you did not change your answer.
- No submissions are used for questions that you did not change.
- The used and allowed submissions for each question are shown at the top of the question.

Rule 3 You submit an entire assignment: For this assignment, you must submit all answers at once. You have a specified number of times that you can submit this assignment.

With this rule, the following behaviors apply:

- The number of allowed submissions is set for the assignment as a whole.
- Each time you submit your answers, all of your answers for the assignment are submitted, including unanswered questions and questions for which you did not change your answer.
- The used and allowed submissions for the assignment are shown at the top of the assignment.



To view the submission rules and how many submissions you have used:

1. If the assignment for which you want to see submission information is not already open, then open it.
2. To see how submissions are counted for the assignment, read the **Assignment Submission** rule at the top of the assignment.
3. To see how many submissions are allowed and how many submissions you have used, view a different part of the assignment depending on the submission rule.
   - For question part submission, click the plus sign in the question heading and review the submissions used for each question part.
   - For question submission, view the submissions information in the question heading.
   - For assignment submission, view the submissions information at the top of the assignment.

   Submissions are always displayed as *used_submissions*/*allowed_submissions*, where
   - *used_submissions* is the number of submissions you have used.
   - *allowed_submissions* is the total number of submissions that you are allowed to use.

See Also:
View Assignment Scoring Details on page 165
View Your Previous Answers for a Question on page 81

Submit Answers

There are multiple ways to submit answers in WebAssign®.

To submit your answers for grading:

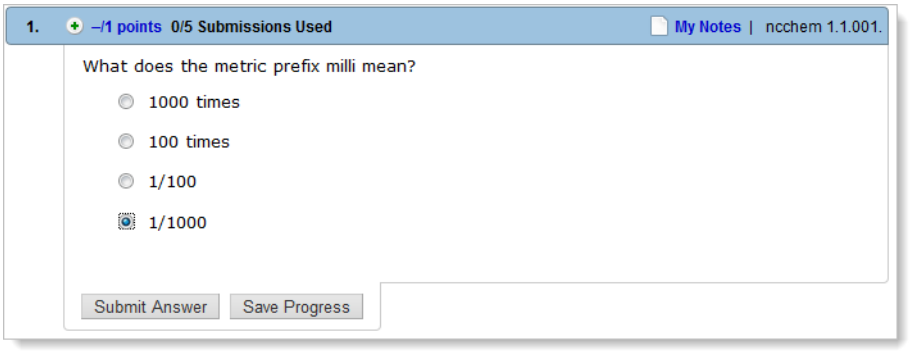
Important: Do not use the ENTER key to submit answers. Your answers will not be submitted.

- Depending on the submission rules for the assignment, you can submit your answers in one or more of the following ways.

To do this	Do this	Allowed for these submission rules
Submit one question part at a time	1. Enter your answer for a question part. 2. At the bottom of the question, click **Submit Answer**. This submits only the changed question parts for the current question.	For this assignment, you... • submit answers by question parts.
Submit one question at a time	1. Enter your answers for the question. 2. At the bottom of the question, click **Submit Answer**. Depending on the submission rule, either the entire question is submitted or only the changed question parts.	For this assignment, you... • submit answers by question parts. • submit answers by questions.
Submit multiple changed questions	1. Enter your answers for more than one question. 2. At the bottom of a question, click **Submit Assignment**. **Note:** The **Submit Answer** button changes to **Submit Assignment** if other questions have changes that have not been submitted or saved. This submits all changed questions on the assignment. Your saved work is submitted only for the current question.	For this assignment, you... • submit answers by question parts. • submit answers by questions.
Submit the entire assignment	1. Enter your answers for all questions on the assignment. 2. At the bottom of the assignment, click **Submit Assignment**. Depending on the submission rule, either the assignment is submitted as a whole, all changed questions are submitted, or only changed question parts are submitted.	For this assignment, you... • submit answers by question parts. • submit answers by questions. • submit the entire assignment.

To do this	Do this	Allowed for these submission rules
Submit your saved work for a question	1. Click in the question for which you saved your work. 2. At the bottom of the question, click **Submit Answer**. Depending on the submission rule, either the entire question is submitted or only the changed question parts.	For this assignment, you... • submit answers by question parts. • submit answers by questions.
Submit your saved work for the entire assignment	At the bottom of the assignment, click **Submit Assignment**. Depending on the submission rule, either the assignment is submitted as a whole, all changed questions are submitted, or only changed question parts are submitted.	For this assignment, you... • submit answers by question parts. • submit answers by questions. • submit the entire assignment.

Note: You must click in a question to see the **Submit Answer** or **Submit Assignment** button at the bottom of the question.



See Also:
Save Your Answers on page 77

Question Feedback

After you submit a question, question part, or assignment, you usually receive feedback on your answers. This feedback might be a mark indicating whether or not you answered a question correctly, or it might include information to help you understand the problem. After the due date, you might see the answer key or a worked solution to the problem. Use this feedback as an opportunity to learn, and if you have more time and submissions, to change your answers on questions that you missed.

Important: What feedback you see depends on both the question itself and on the options that your instructor set for the assignment. Tell your instructor if you want to see more feedback on future assignments.

Note: If your assignment uses Question Parts submission, and if you answer a question part correctly using fewer than the maximum number of submissions allowed, the solution is not displayed.

Marks

If shown, marks indicate whether the most recent answer you submitted was correct or incorrect.

Note: Marks are never shown for short-answer, essay, file-upload, and pencilPad question parts, or for Show My Work, since these are graded by your instructor. However, you can see any comments that your instructor made about your answers. See View Assignment Scoring Details on page 165.

Mark	Meaning
	The submitted answer is correct.
	The submitted answer is not correct.
	The submitted answer is partially correct. Often, this means one of two things: • The answer is numerically correct, but is specified with an incorrect number of significant digits or decimal places. • The answer uses valid units, but is numerically incorrect.
	The submitted answer is incorrect because it is based on incorrect values, but the calculation is valid.
	The submitted answer is not correct, but credit was awarded for a previous submission.
	The submitted answer might be correct or incorrect; more feedback is available when you click the mark.
	The last submitted answer was correct, but the answer has been changed and has not been resubmitted.
	The last submitted answer was not correct, but the answer has been changed and has not been resubmitted.

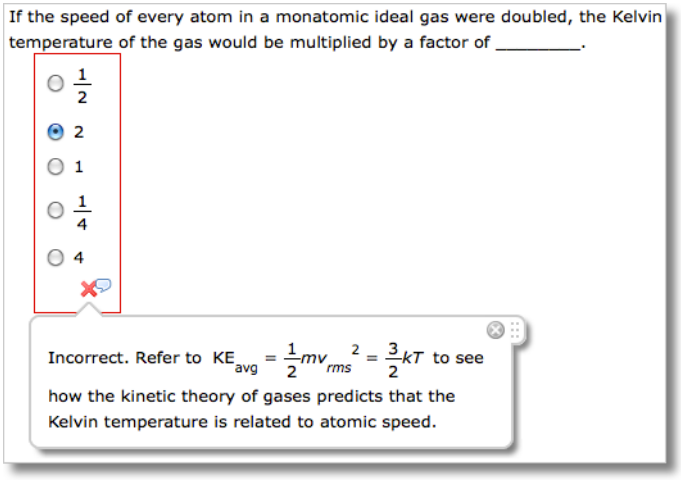
Note: Some icons have different meanings when they are shown below a question or question part score.

When you change your answer for a question part, its mark changes to gray until you submit a new answer. This indicates that the mark relates only to your last submitted answer and not to your changed answer.

See Also:
Question Score on page 166
Question Part Score on page 167

Feedback and Hints

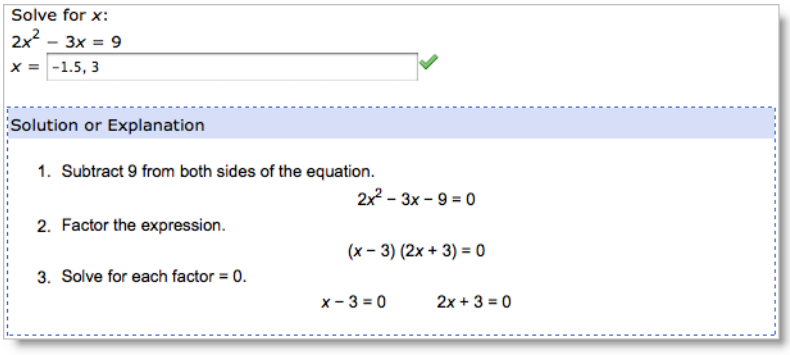
If the mark displays a feedback bubble, you can click the mark to see feedback designed to help your understanding of the material.



Feedback might be shown in other ways, as well. Some questions display hints after a specific number of submissions, or if your answer demonstrates a partial understanding of the question. The chemPad tool displays feedback for the chemical expression that you entered.

Worked Solutions

Some questions provide a worked solution that shows how the correct answer is obtained. Depending on how your instructor set up the assignment, the solution might be shown only after the assignment due date is passed, or after you have used all of your submissions.The solution cannot display without the answer key, nor can it display before the answer key, whether or not the answer has been submitted multiple times.



Answer Keys

Depending on how your instructor set up the assignment, you might be able to see answer keys indicated with the key icon in the assignment. The answer key indicates a correct answer provided by the question, but might not be the only acceptable answer.

There are three times when the answer key might be displayed:

1. In tutorial questions, if you skip a step, the answer key is displayed for that step before the due date. This allows you to continue with the tutorial.
2. If allowed by your instructor, answer keys might be displayed automatically before the due date, usually after a specified number of submissions.
3. If allowed by your instructor, the View Key button might be displayed after the assignment due date has passed. Click this button to see the answer keys for all questions on the assignment.

Note: If you view the answer key, your instructor will probably not grant you an extension for the assignment. Only your instructor can grant an extension.

Answers That Cannot Be Understood

If your answer contains one or more syntax errors that prevent WebAssign® from being able to grade it, WebAssign® displays the message Your answer cannot be understood or graded. Depending on your instructor, answers with syntax errors might be counted as incorrect submissions.

Often, the problem is a simple typographical error that is easy to spot and correct. After correcting the error, submit your answer again.

Note:

- If your answer is not counted as a submission, it is also not stored by WebAssign®. This means that after certain actions, like closing and reopening the assignment or submitting an answer for a different question, your answers with syntax errors are no longer displayed in the assignment.
- Copying text from anywhere and pasting it in an answer box will result in an error. You must type your response using the keyboard or the tools provided.

Common Errors

Some of the most common errors are listed here.

Problem	Incorrect	Correct
Brackets or braces instead of parentheses.	4*{x+3}	4*(x+3)
Unpaired parentheses.	(1+2)+3)	((1+2)+3)

Problem	Incorrect	Correct
Missing part of the expression.	50*	50*3
Too many consecutive operators.	x++++2	x+2
Unrecognized symbol.	$4.00 4&6	4.00 4+6

Errors Specific to Numerical Questions

The following errors are common in questions that require you to enter a number with or without a unit.

Problem	Incorrect	Correct
Misspelled unit.	3456 met/sec	3456 m/s
Specifying a unit when none is required. **Note:** If displayed, check the answer format tip to see if units are required.	3 m	3
Numerical answers cannot contain variables.	2*x+3	2*10+3
Numerical answers cannot use implicit multiplication.	3(14)	3*14
Numerical answers must use ** to specify exponents.	2^3	2**3

Errors Specific to mathPad, calcPad, and physPad Questions

The following errors are common in mathPad, calcPad, or physPad questions, as well as older symbolic questions that require calculator notation.

Problem	Incorrect	Correct
Incorrect variables. Variable names are case-sensitive (*x* is not the same as *X*). If the question specifies Greek letters or symbols such as ℓ, do not substitute English letters.	3*X* 3*a* 3*l*	3*x* 3*a* 3ℓ
Comma in number.	5,000	5000

Problem	Incorrect	Correct
Do not use ** to specify exponents.	2**3	2^3 2^3 **Note:** In mathPad, calcPad, or physPad, typing 2^3 displays 2^3.
Do not use uppercase E in scientific notation.	1.2E15	1.2e15

See Also:

Answer Numerical Questions on page 96
Answer Symbolic Questions with Calculator Notation on page 107
Answer mathPad Questions on page 110
Answer calcPad Questions on page 118
Answer physPad Questions on page 127
Types of Questions on page 46

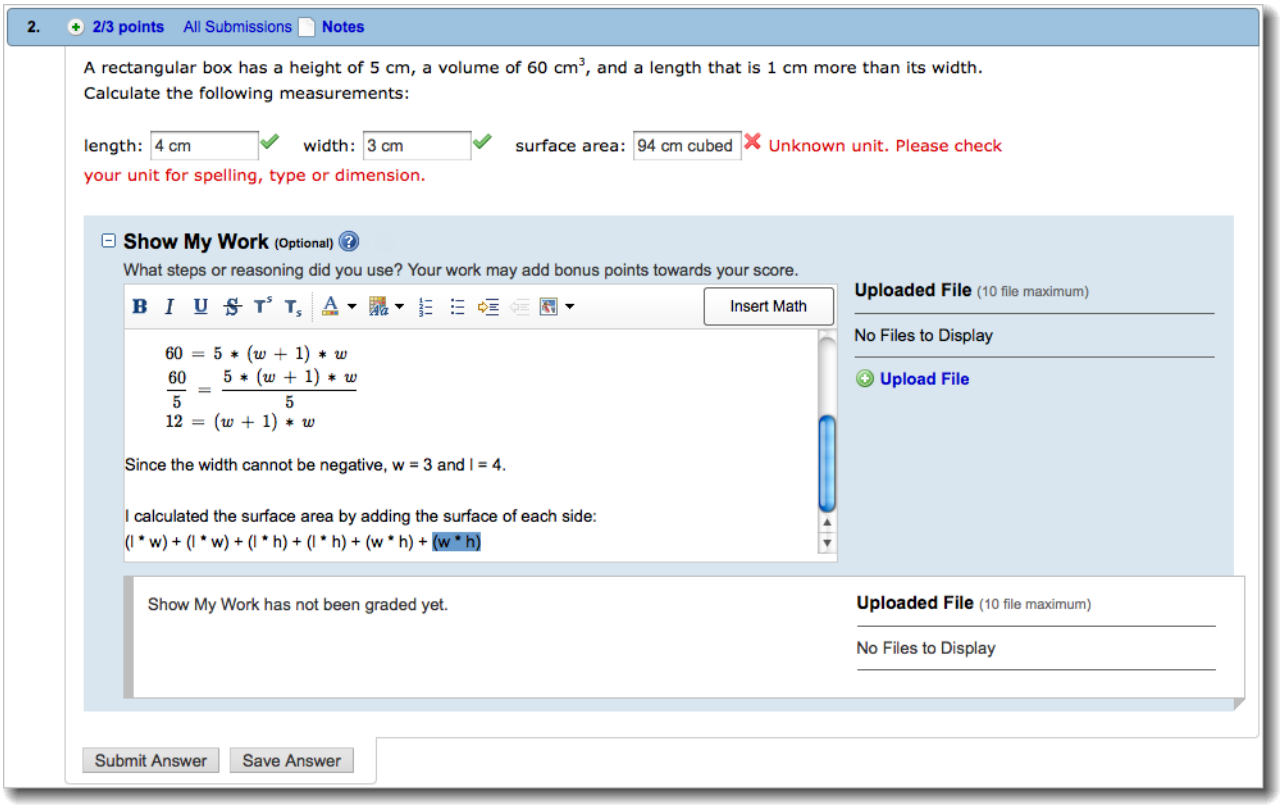
Show Your Work

Some questions include a final question part labeled Show My Work. Use Show My Work to demonstrate your reasoning or the process you used to answer the question.

For each question, the Show My Work header indicates whether Show My Work is required or optional.

Important:

- Show My Work might be optional for some questions and required for other questions on the same assignment.
- If Show My Work is required, it counts toward your assignment score. You will tentatively receive full credit when you submit your work, but your instructor might change your Show My Work score after reviewing your answer.



Show My Work does not restrict the number of submissions you can make. Until the assignment due date passes, you can update Show My Work as many times as you need to.

To Answer Show My Work in a Question:

1. If needed, expand the Show My Work question part.
2. Click in the Show My Work answer box and type your answer.

   The Show My Work answer box displays a standard set of tools for formatting your text; if needed, hover your mouse over any of the toolbar buttons to see its description.
3. When you think that your answer is correct, submit it to WebAssign®.

Important: In order to receive credit for your answer, you must submit it to WebAssign®.

Upload a File to Show Your Work

You can upload one or more files that explain how you arrived at your answer. You can also open or remove files that you uploaded.

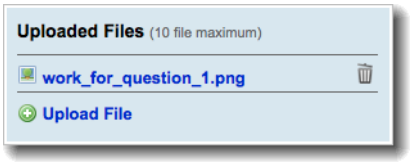
Note: Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.

Before uploading a file, prepare it to ensure that it can easily be viewed.

Image files	• Use one of the following standard file formats: PNG, GIF, JPG. • Make sure your picture is clear and that your work can easily be read. • Make sure your picture shows all of your work and is not missing anything at the top, bottom, or sides. • Crop your picture so that it shows only your work and nothing else.
Documents, presentations, or spreadsheets	Use the file format and version specified by your instructor. If your instructor did not specify a file format, consider saving your document in a standard format like PDF to ensure that your instructor can open it.

To upload a file for Show My Work:

1. In the **Uploaded Files** section of the Show My Work question part, click **Upload File**.
   A file browser window opens.
2. Select the file that you want to upload.
3. Depending on your browser, click either **Open** or **Choose**.
   The file you uploaded is displayed in the Uploaded Files list.



4. Optional: You can open or remove a file that you uploaded.
   - To open a file, click its name in the **Uploaded Files** list. Depending on your browser settings, you might be prompted to save the file or to open it with another application on your computer.
   - To remove a file, click , and then click **OK** to confirm that you want to remove it.

Display an Image to Show Your Work

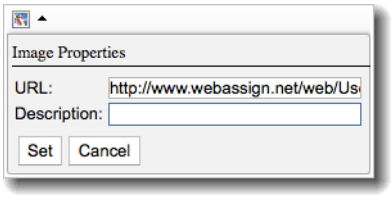
You can insert an image in your work from the Web or from a file that you uploaded by specifying its location.

To display an image in the Show My Work box:

1. Copy the Web address of the image or uploaded image file.

Browser	Steps
Internet Explorer	1. Right-click either the file name of your uploaded file or an image displayed in a Web page and click **Properties**. 2. In the Properties window, select and copy the address.
Firefox	• To copy the address of your uploaded file, right-click the file name and click **Copy Link Location**. • To copy the address of an image displayed in a Web page, right-click the image and click **Copy Image Location**.
Safari	• To copy the address of your uploaded file, right-click the file name and click **Copy Link**. • To copy the address of an image displayed in a Web page, right-click the image and click **Copy Image Address**.
Chrome	• To copy the address of your uploaded file, right-click the file name and click **Copy Link Address**. • To copy the address of an image displayed in a Web page, right-click the image and click **Copy Image URL**.

2. Click in the Show My Work box where you want to insert the image.
3. Click  .
4. Paste the Web address of the image into **URL** and click **OK**.



5. Optional: Type a **Description** of the image.

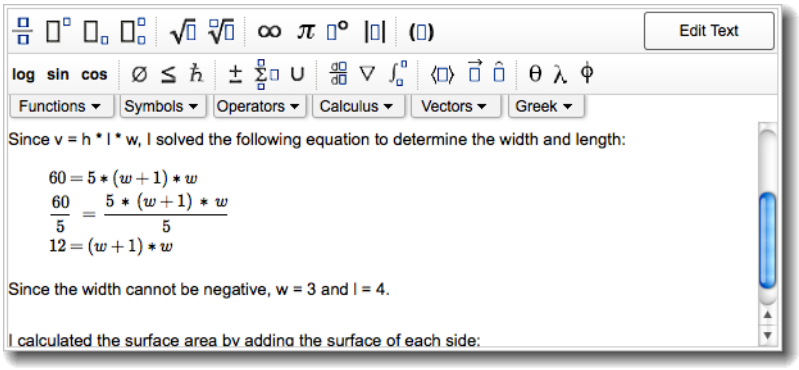
The image is displayed.

Enter Math Expressions to Show Your Work

You can enter mathematical expressions in your work.

To enter a mathematical expression:

1. In the Show My Work toolbar, click **Insert Math**.
   The toolbar changes to display buttons for entering math expressions.



2. Use the keyboard and buttons to enter your math expression.

To do this	Do this
Enter variables.	Type the variable name. Variables are automatically italicized.
Enter lowercase or uppercase Greek letters.	Type a backslash (\) followed by the lowercase or capitalized name of the letter, for example, **\delta** to insert δ or **\Delta** to insert Δ.
Display or hide additional buttons.	Click **Functions**, **Symbols**, **Operators**, **Calculus**, **Vectors**, or **Greek**.
Move the insertion point.	Press the HOME, END, and arrow keys.
Move to the next part of the expression.	Press TAB.
Move to the previous part of the expression.	Press SHIFT+TAB.
Copy the entire expression.	Press CTRL+C. **Note:** You cannot select or copy only part of the expression.
Cut the entire expression.	Press CTRL+X. **Note:** This removes the entire expression. To undo, press CTRL+V to paste the expression.
Paste the entire expression.	Press CTRL+V. **Important:** This replaces the entire expression with an expression that you previously cut or copied. There is no undo.
Delete the character to the left of the insertion point, the selected expression, or notation such as fractions.	Press BACKSPACE.

To do this	Do this
Delete the character to the right of the insertion point, the selected expression, or notation such as fractions.	Press DELETE.
Delete the current part of the expression and its parent — for example, deletes an entire fraction.	Press CTRL+DELETE.

Note:

- You cannot select a portion of your math expression to cut, copy, or paste.
- You cannot undo changes in your math expression.

Examples: Entering Math Notation

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
A simple expression with integers	Type **2x+52500**	$2x + 52500$
A polynomial with a fractional coefficient	1. Click $\frac{\square}{\square}$ 2. Type **1** and press TAB 3. Type **2** and press TAB 4. Type **x^2** and press TAB 5. Type **+4x+2**	$\frac{1}{2}x^2 + 4x + 2$
A simple inequality	1. Type **x** 2. Click **Symbols** > **≥** 3. Type **-4**	$x \geq -4$
A square root	Type **sqrt(x**	$\sqrt{x}$
A cube root	1. Click $\sqrt[\square]{\square}$ 2. Type **3**TAB**x**	$\sqrt[3]{x}$
An expression involving pi and Euler's number	Type **\pi+e^2**	$\pi + e^2$

Expression	Do this	To display this
The natural logarithm of an absolute value	1. Click **Functions** > **ln** 2. Type **|x|**	ln(|*x*|)
A complex number	Type **2+3i**	2 + 3*i*
A vector in vector bracket form	1. Click ⟨□⟩ 2. Type **12,15,22**	⟨12, 15, 22⟩

General Math

The following general math notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Decimal number	**0123456789.**		
Fractions		□/□	You cannot use the keyboard.
Mixed Numbers		□ □/□	You cannot use the keyboard.
Addition	**+**	**Operators** > **+**	
Subtraction	**-**	**Operators** > **−**	
Multiplication		**Operators** > **×**	You cannot use the keyboard.
Division		**Operators** > **÷**	You cannot use the keyboard.
Plus or minus		**Operators** > **±**	
Minus or plus		**Operators** > **∓**	
Parentheses	**(**	**(□)**	A closing parenthesis is automatically inserted.
Equal	**=**	**Symbols** > **=**	
Greater than	**>**	**Symbols** > **>**	
Greater than or equal to		**Symbols** > **≥**	You cannot use the keyboard.
Less than	**<**	**Symbols** > **<**	
Less than or equal to		**Symbols** > **≤**	You cannot use the keyboard.

Notation	Keyboard	Button	Notes
Approximately equal		**Symbols** > ≈	You cannot use the keyboard.
Not equal		**Symbols** > ≠	You cannot use the keyboard.
Absolute value	| or **abs(**	$\lvert\square\rvert$	
pi	**\pi**	π	
Infinity		∞	You cannot use the keyboard.
Imaginary unit	**i**	**Symbols** > ***i***	
Factorial	***n*!**	**Functions** > $\square!$	
hbar		$\hbar$	You cannot use the keyboard.

Bases, Exponents, Roots, and Logarithms

The following base, exponent, root, and logarithm notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Exponent	^	$\square^{\square}$	
Base or subscript	_ (underscore)	$\square_{\square}$	
Exponent and subscript of a variable		$\square_{\square}^{\square}$	You cannot use the keyboard.
Square root	**sqrt(*n***	$\sqrt{\square}$	
***n*th root**		$\sqrt[\square]{\square}$	You cannot use the keyboard.
Exponential function	**e^*n***	$e^{\square}$	
Natural logarithm		**Functions** > **ln**	You cannot use the keyboard.
Power of 10	**10^*n***	$10^{\square}$	
Logarithm (base 10)		log	You cannot use the keyboard.
General log		$\log_{\square}$	You cannot use the keyboard.

Algebraic Notation

The following algebra notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Variables	Type variables exactly as specified in the question.		Variables are automatically displayed in italics.
Lowercase Greek letter	`\letter_name`	**Greek** > ***letter***	For example, type **`\alpha`**, **`\pi`**, or **`\theta`**.
Uppercase Greek letter	`\Letter_name`	**Greek** > ***letter***	For example, type **`\Delta`** or **`\Omega`**.

Set and Interval Notation

The following set and interval notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Set delimiters (braces)	`{a,b`		A closing brace is automatically inserted.
Closed interval (brackets)	`[a,b`		A closing bracket is automatically inserted.
Open interval (parentheses)	`(a,b`	**Symbols** > (□)	A closing parenthesis is automatically inserted.
Empty set		**Operators** > ∅	
Union		**Operators** > ∪	
Intersection		**Operators** > ∩	
Subset		**Operators** > ⊂	
Superset		**Operators** > ⊃	
Element of		**Operators** > ∈	
Not an element of		**Operators** > ∉	

Trigonometric Functions

The following trigonometric notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Degrees		□°	
Sine		**Functions** > **sin**	
Cosine		**Functions** > **cos**	
Tangent		**Functions** > **tan**	
Cosecant		**Functions** > **csc**	
Secant		**Functions** > **sec**	
Cotangent		**Functions** > **cot**	
Inverse sine (arcsine)		**Functions** > **$\sin^{-1}$**	
Inverse cosine (arccosine)		**Functions** > **$\cos^{-1}$**	
Inverse tangent (arctangent)		**Functions** > **$\tan^{-1}$**	
Inverse cosecant (arccosecant)		**Functions** > **$\csc^{-1}$**	
Inverse secant (arcsecant)		**Functions** > **$\sec^{-1}$**	
Inverse cotangent (arccotangent)		**Functions** > **$\cot^{-1}$**	

Vector Notation

The following vector notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Vector bracket		**Vectors** > ⟨□⟩	You cannot use the keyboard.
Arrow vector		**Vectors** > $\vec{\square}$	You cannot use the keyboard.
Unit vector (hat vector)		**Vectors** > $\hat{\square}$	You cannot use the keyboard.
Cross product		**Vectors** > **×**	You cannot use the keyboard.

Notation	Keyboard	Button	Notes
Dot product		**Vectors** > ·	You cannot use the keyboard.

Calculus

The following calculus notation can be entered in Show My Work boxes.

Note: In addition to the keyboard shortcuts listed in this topic, some symbols can be typed using the keyboard shortcuts for your operating system; for example, you can press ALT+0247 on Windows to type ÷.

Notation	Keyboard	Button	Notes
Summation		**Operators** > $\Sigma\square$	
Summation with index		**Operators** > $\sum_{\square}^{\square}$	
Derivative		**Calculus** > $\frac{d\square}{d\square}$	
Partial derivative		**Calculus** > $\frac{\partial\square}{\partial\square}$	
Del		**Calculus** > ∇	
Indefinite integral		**Calculus** > $\int$	
Definite integral		**Calculus** > $\int_{\square}^{\square}$	
Integral over a region		**Calculus** > $\int_{\square}$	
Closed integral		**Calculus** > $\oint$	
Closed integral over a region		**Calculus** > $\oint_{\square}$	

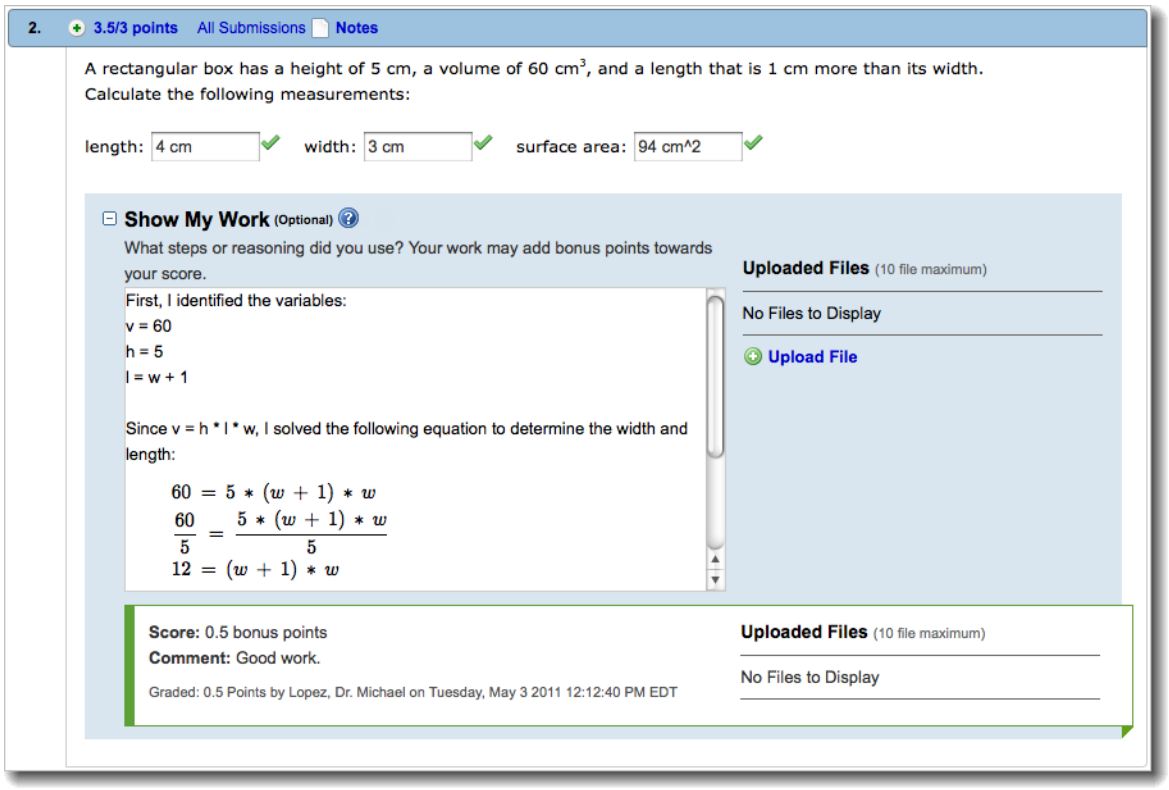
View Instructor Comments for Show My Work

After you show your work on an assignment, your instructor or a TA can change the score or add comments and files to help you better understand the material. Review these comments when studying for a quiz, test, or examination.

To view instructor comments for your work:

1. Open the assignment.
   a) From your Home page or My Assignments page for a class, click the name of the assignment you want to open.
   b) If necessary, acknowledge any assignment restriction notices or enter the assignment password and click **Continue**.

Your instructor's comments and your score for each Show My Work question part are displayed below your answer.



2. Optional: If your instructor provided any files to help you, click the file name to open the file.

   Depending on your browser settings, you might be prompted to save the file or to open it with another application on your computer.

New Randomization

If your instructor has enabled new randomizations, you can use the **New Randomization** button to generate new randomized values in a question after you have reached the set number of available submissions for the current randomized values.

When you click the **New Randomization** button, the randomized values in the question are replaced with new randomized values:

- If the button is displayed at the end of an assignment, clicking it generates new randomized values for all questions in the assignment.
- If the button is displayed after a question, clicking it generates a new randomized values for that question.

The **New Randomization** button is only displayed after you have used the set number of submissions for the current randomized values but still have submissions left for an assignment. For example, suppose the assignment you

are working on allows two submissions per randomized value and five total submissions per question:

1. You submit two answers for a question and the **New Randomization** button is displayed.

   Note: If your instructor has enabled it, you can view the answer key and/or solution for the current randomization after you have used the specified number of submissions. You can use this information to work through how to solve the problem and apply this knowledge when answering the question with the next set of randomized values.

2. You click the **New Randomization** button and receive new randomized values for that question.
3. You submit two answers for the new randomized values and the **New Randomization** button is displayed.
4. You click the **New Randomization** button and receive new randomized values for that question.

   You have one of the original five submissions remaining to answer the question with the new randomized values.

The number of submission attempts for each set of randomized values, as well as the total possible number of submissions, is set by your instructor.

Get New Randomized Values

If your instructor has enabled new randomizations, you can generate new randomized values in questions. Before you can generate a new randomization you must use all of the submissions for the current randomized values.

New randomized values can either be generated for a single question, or for all questions in an assignment, depending on how your instructor has set up randomization:

- If the **New Randomization** button is displayed at the end of an assignment, clicking it generates new randomizations for all randomized values in the assignment.
- If the **New Randomization** button is displayed after a question, clicking it generates a new randomization for the randomized values in that question.

Note: Not all questions support randomization, so you might have some questions on an assignment that you will not be able to generate new randomizations for.

1. Use the maximum number of submissions for the current randomized values. The **New Randomization** button is now available.

   Note: If your instructor has enabled it, you can view the answer key and/or solution for the current randomization after you have used the specified number of submissions. You can use this information to work through how to solve the problem and apply this knowledge when answering the question with the next set of randomized values.

2. Click the **New Randomization** button.
   New randomized values are provided in the question(s) and the **New Randomization** button is no longer available.

Save Your Answers

If enabled by your instructor, you can save your progress on an assignment without submitting your answers. You can then view your saved work later when you are working on the assignment again. You might want to save an answer that you expect to revise later. You might also want to save your progress as you work on an assignment that allows only one submission.

Important: Your saved answers:

- are not scored
- do not receive credit
- cannot be reviewed by your instructor
- do not use any submissions

In order to receive credit, you must submit your answers before the assignment due date.

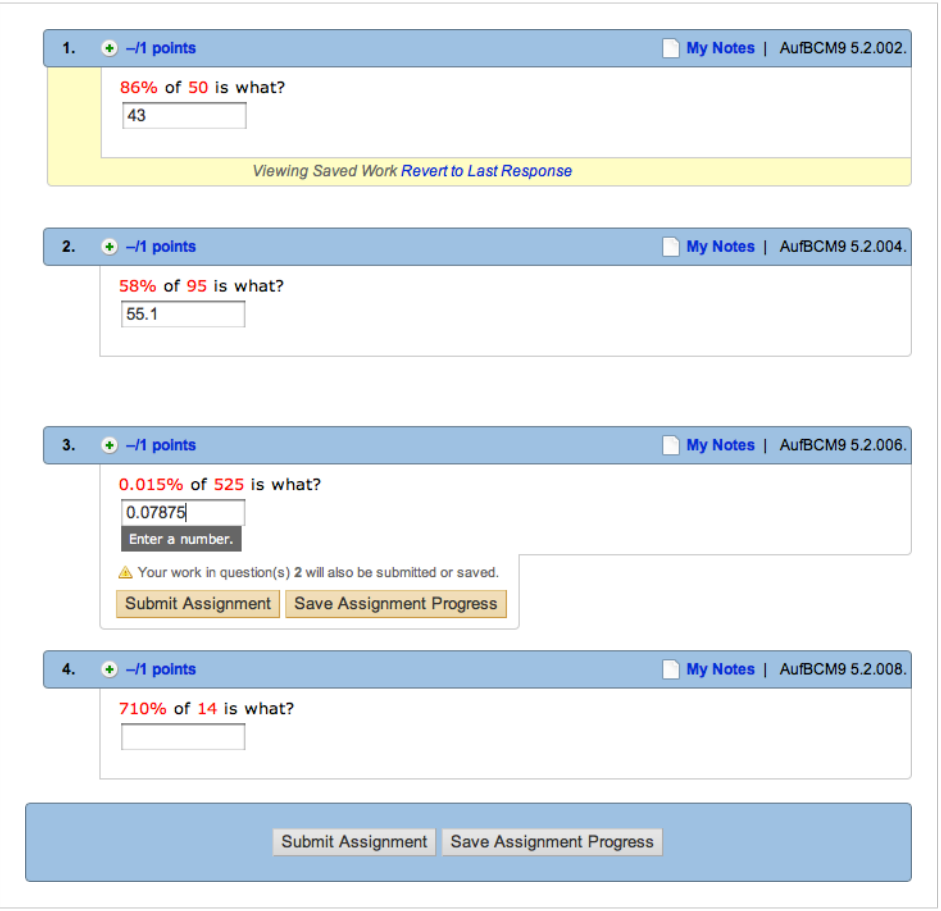
Depending on the submission rules for the assignment, you can save your answers without using a submission in one or more of the following ways.

To do this	Do this	Allowed for these submission rules
Save your work for one question	1. Enter your answers for a question. 2. At the bottom of the question, click **Save Progress**. Your answers are saved for the current question.	For this assignment, you... • submit answers by question parts. • submit answers by questions.
Save your work for multiple questions	1. Enter your answers for more than one question. 2. At the bottom of a question, click **Save Assignment Progress**. **Note:** The **Save Progress** button changes to **Save Assignment Progress** if other questions have changes that have not been submitted or saved. Your answers are saved for all changed questions on the assignment.	For this assignment, you... • submit answers by question parts. • submit answers by questions.

To do this	Do this	Allowed for these submission rules
Save your work for the entire assignment	1. Enter your answers for all questions on the assignment. 2. At the bottom of the assignment, click **Save Assignment Progress**. Your answers are saved for all changed questions on the assignment.	For this assignment, you... • submit answers by question parts. • submit answers by questions. • submit the entire assignment.
Discard your saved work for a question	Click **Revert to Last Response** at the bottom of the question. Your last submitted answer is shown for the question instead of the answer you saved.	For this assignment, you... • submit answers by question parts. • submit answers by questions. • submit the entire assignment.

Note:

- While saving answers, the button displays Saving.
- Questions with saved work display a yellow border on the left and bottom with the message Viewing Saved Work.
- You must click in a question to see the **Save Progress** or **Save Assignment Progress** button at the bottom of the question.
- Marks and scores displayed with a question apply to the submitted answers for that question only, not to your saved work.
- You cannot view previous versions of saved work, including work that you might have saved and then changed before submitting it.



This figure shows four questions in an assignment.

- Question 1 has a saved answer, indicated by the yellow saved work border and the Viewing Saved Work message. It also displays the **Revert to Last Response** link.
- Question 2 has an answer that has not been submitted or saved.
- Question 3 has an answer that has not been submitted or saved. Because the student is working on the question, it displays the buttons **Submit Assignment** and **Save Assignment Progress** at the bottom.
- Question 4 has no answer yet.

At the bottom of the assignment, the buttons **Submit Assignment** and **Save Assignment Progress** are displayed.

See Also:

Submit Answers on page 57
View Your Previous Answers for a Question on page 81

Make Notes About a Question

You can add a note to yourself in any question. Your note can be about anything; for example, you might remind yourself to use a specific formula.

Note:

- Anything you enter on your assignments, including notes, can be read by your instructor.
- Unless requested by your instructor, do not use notes to communicate with your instructor; instructors are not alerted when you add notes to questions, and there is no way for your instructor to reply to your note.
- You cannot add notes on assignments that use LockDown Browser.

To make a note about a question:

1. Click the **Notes** icon in the question heading.

   The My Notes window opens.

2. Type your note in the **Notes** field, and click **Save**.
   The note is saved.

3. Click **Close this window** to close the My Notes window.

View Your Notes About a Question

If you have previously saved a note for a question, the notes icon changes to a representation of a notebook.

To view a note about a question:

1. Click the **Notes** icon in the question heading.
   The My Notes window opens and displays the saved note.

2. Click **Close this window** to close the My Notes window.

Edit Your Notes About a Question

You can edit the notes you have already saved.

To edit a saved note about a question:

1. Click the **Notes** icon in the question heading.
   The My Notes window opens and displays the saved note.

2. Click **Edit**.

3. Edit your note in the **Notes** field, and click **Save**.
   The note is saved.

4. Click **Close this window** to close the My Notes window.

View Your Previous Answers for a Question

If viewing your previous answers is enabled for an assignment, you can see your previous answers to a question.

Depending on how your instructor set up the assignment, you might be able to see:

- only the most recent answer you submitted
- both the most recent answer and any previous answers you submitted

If you are allowed to see your most recent answers, they are displayed in the assignment when you open it.

Note: If you have saved work for a question, your saved answer is displayed instead of your submitted answer.

To view your previous answers:

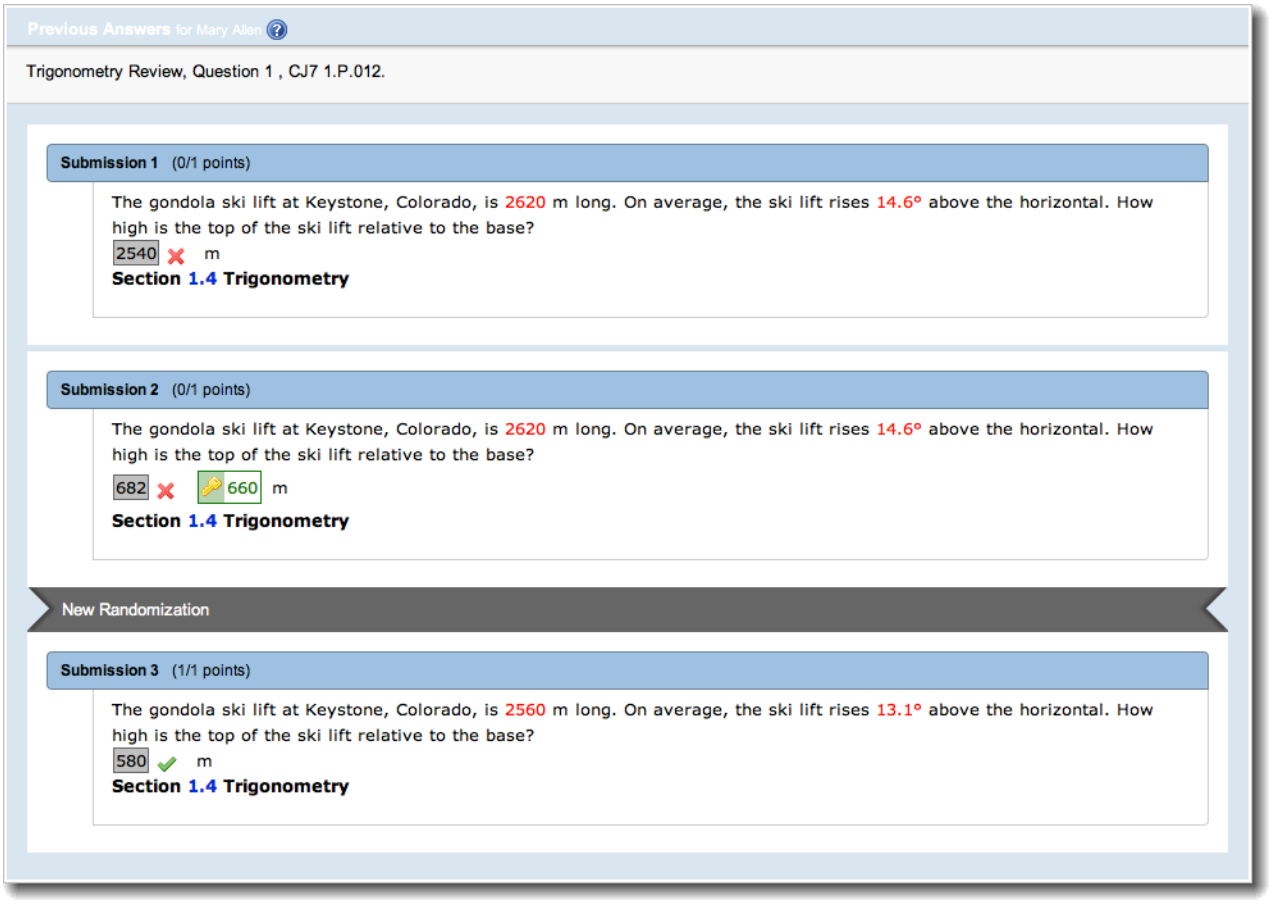
To view all of your submitted answers for a question, click **Previous Answers** in the question heading.
The Previous Answers page opens, displaying all the answers you have submitted for the question.

See Also:
View Submission Information on page 55
Scores and Grades on page 163
Question Feedback on page 59
Save Your Answers on page 77

Previous Answers Page

The Previous Answers page displays all of the answers you submitted for a question. You cannot change your answers in this page.

To open the Previous Answers page, click **Previous Answers** in the question heading of a question on your assignment. This page opens in a new window.



Item	Description
Assignment Name and Question Number	The assignment name and question number are displayed at the top of the page.
Submission Header	Each of your submissions for the question is displayed in order, with the first submission at the top and the most recent submission at the bottom. Each submission displays a header with the sequence number of the submission and the points earned. For assignments allowing question part submission, the time when the submission was made is also displayed. **Note:** For assignments with question part submission, the number of submissions made might look like more than the allowed number of submissions. This is because each time you submitted new answers, submissions were used only for the changed question parts.

Item	Description
Answers	The answers submitted for each question part are displayed for each submission. If an answer box was empty when the question was submitted, it displays *(No Response)*. Answers cannot be changed in the Previous Answers page.
Marks	If enabled by your instructor, marks are displayed for each answer box to indicate whether or not the answer was correct. **Note:** Marks on the Previous Answers page do not indicate whether more credit was earned for a previous response.
Question Feedback	If available, question feedback is displayed for each submission.
Answer Keys	Answer keys are displayed only for those submissions after which the answer key was displayed on the assignment.
New Randomization	If shown, the **New Randomization** banner indicates that the question values changed after you clicked **New Randomization** in the assignment.

The date when each answer was submitted is displayed only for assignments with question part submission.

The following items are *not* displayed in the Previous Answers page. You can view these items (if available) in the assignment.

- Links to "pop-up" questions that do not count toward your score. This includes tutorial and practice questions and Practice Another Version.
- Links to eBooks or other learning resources.
- Detailed score information for each question part.
- Assignment scoring and submission rules.
- Worked solutions.

See Also:

View Submission Information on page 55

6

Answer Common Question Types

This chapter contains the following topics:

You can answer most questions in WebAssign® using standard text entry, multiple-choice, or multiple-select fields that are similar to those used in other computer applications. This section describes the various ways that you can enter answers in WebAssign®.

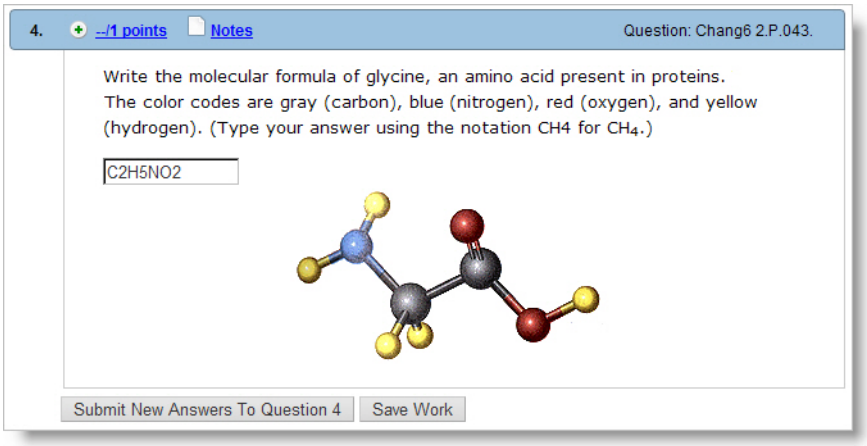
Answer Fill-In-The-Blank Questions

You can enter short text answers in fill-in-the-blank questions.

To answer a fill-in-the-blank question:

Enter a response in each answer box. Spelling counts, so check your answers before submitting the assignment.

Depending on your instructor, capitalization and extra spaces might not matter, but sometimes they do. For chemistry questions, for example, **na** is not the correct chemical symbol of sodium; you must enter **Na**.



See Also:
Submit Answers on page 57

Answer Matching Questions

A matching question requires you to match information in one column to information in a second column. You answer these questions by selecting the appropriate match from a drop-down.

To answer matching question:

Select the correct match from the drop-down. Select an answer for each item until all of the items are matched.

See Also:
Submit Answers on page 57

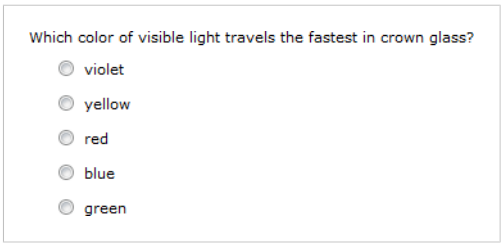
Answer Multiple-Choice Questions

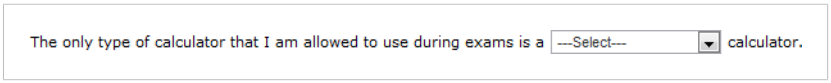
Multiple-choice questions can have either option buttons beside the possible answers or drop-down menus for selecting your answer.

To answer a multiple-choice question:

Select a single answer from a list of options.

Multiple-choice questions can display as a list of option buttons or as a drop-down list.





Note: Many multiple choice questions display a graph or image for each choice. Clicking any part of the choice — including a graph or image — selects it. Before submitting your answer, make sure the correct choice is selected.

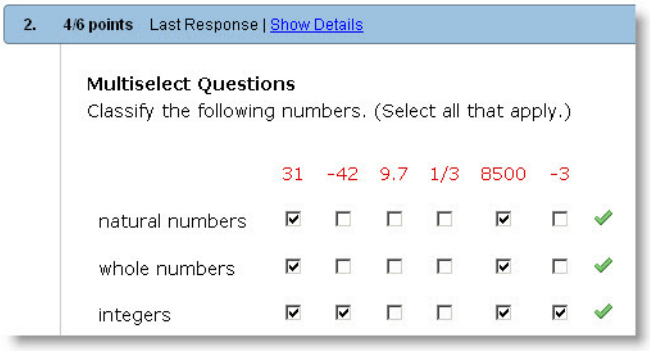
See Also:
Submit Answers on page 57

Answer Multiple-Select Questions

Multiple-select questions in WebAssign® use check boxes. You can select more than one answer for this type of question.

To answer a multiple-select question:

Select one or more check boxes for your response. To clear a check box, click the checked box again.



See Also:
Submit Answers on page 57

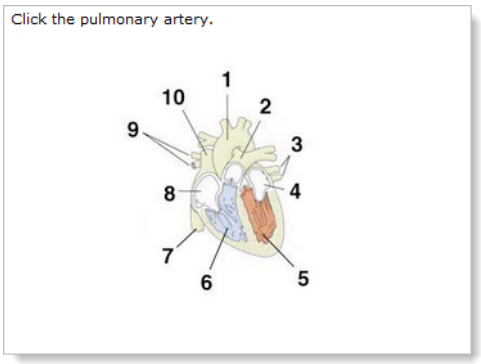
Answer Identification Questions

An identification question requires you to identify the correct response by clicking it in the image.

To answer this kind of question, you must use either Firefox or Internet Explorer.

To answer an identification question:

Mouse over the image and click the correct answer.



See Also:
Submit Answers on page 57

Answer pencilPad Questions

The pencilPad tool lets you draw or write in your own handwriting using your mouse or a tablet PC. You can show your work, draw diagrams or simply provide more information about how you worked a problem.

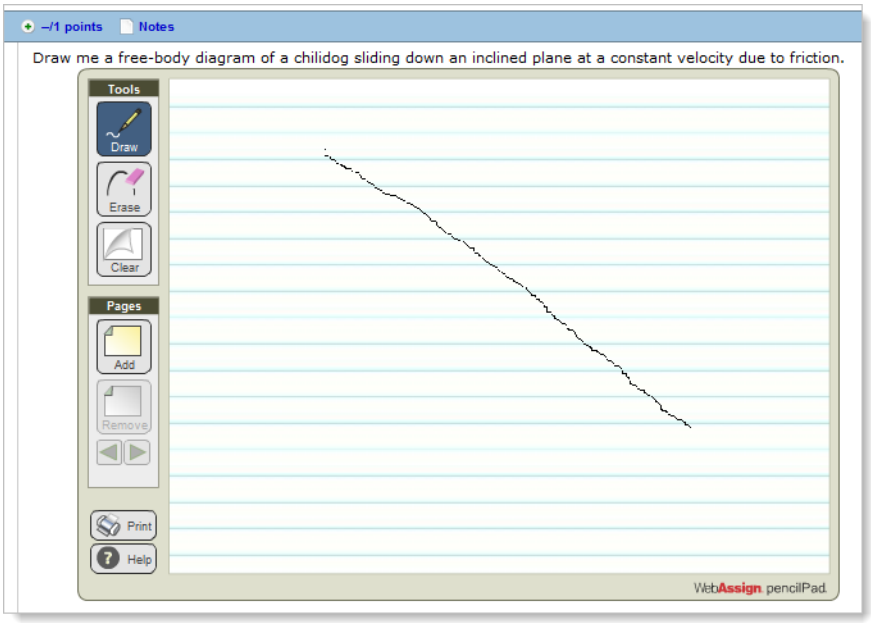
Note: Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.

To draw or write using pencilPad:

1. Click the draw tool.

   The pointer is displayed as a pencil.

2. Move the pointer to form the object or words you want in the note pad space.



3. You can do any of the following:
   - Click **Erase** to erase part or all of your drawing or text. The pointer is displayed as an eraser.
   - Click **Clear** to delete everything on the page.
   - Click **Add** to add a new page.
   - Click **Remove** to delete the page.
   - Click the arrows to go to the previous or next page.
   - Click **Print** to print all pages of your work.
   - Click **Help** to get help with how to use pencilPad.
4. When you are done, click **Save** or **Submit**. Blank pages are removed.

See Also:

Submit Answers on page 57

Answer Essay Questions

Answer essay questions by entering your response in the box provided. After your instructor grades essays, your scores and instructor comments are displayed on the assignment, if enabled.

To answer an essay question:

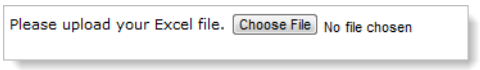
Click in the answer box and type your answer.

Important: By default, you receive full credit after submitting your answer. After your instructor grades your answer your score can change. For example, if there are 5 points in an essay question, you might see that you have 5 out of 5 points when you first submit it. If your score is actually 4 out of 5 points, you will see the score change after the instructor enters the correct score of 4 points in WebAssign®.

See Also:
Submit Answers on page 57

Upload Files for Questions

Answer file upload questions by preparing the requested file in the required format and then uploading it. Unless your instructor tells you differently, your file should be smaller than 100 K.



To upload your file to a question:

1. Click **Browse** or **Choose File**, depending on your browser.
2. Navigate to the file you want to upload.
3. Click **Open** or **Choose**, depending on your browser.

   The location of your file is entered into the answer space.
4. If you want to change the file you uploaded to another file, click either **Browse** or **Choose File** and repeat the previous steps.

5. When you have finished selecting your file, click **Submit**. When you do so, your instructor can view and grade your file.

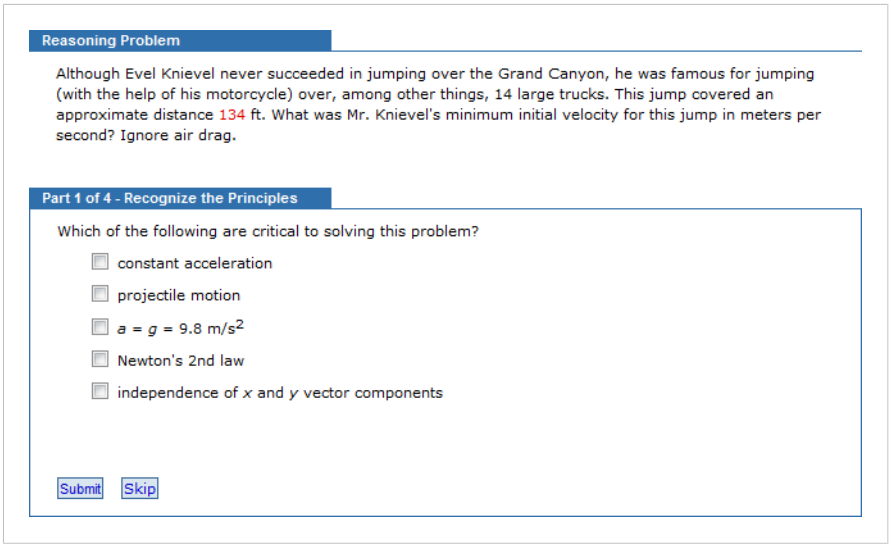
See Also:
Submit Answers on page 57

Answer Scored Tutorial Questions

Tutorial questions have multiple parts that are completed sequentially to help you work through learning a concept. **Scored tutorial questions** are displayed in your assignment and count toward your assignment score.

To answer a scored tutorial question:

1. Try to answer the first part of the question.



   - If you think you know the answer, enter it and click **Submit**.

     Your answer is scored. If your answer is incorrect, you can continue to submit new answers until you either answer the question correctly or run out of submissions. The maximum number of submissions is set by your instructor.

   - If you cannot answer the question, click **Skip**.

   After you answer the part correctly, use all of your submissions, or skip the part:

   - The answer key is shown for that part of the tutorial.
   - The next part of the tutorial is shown.

2. Try to answer the next part of the tutorial in the same way.

   Continue to answer each tutorial part until you reach the end of the tutorial question.

Important: You do not receive any credit for parts that you skip.

See Also:
Submit Answers on page 57
Multiple-Part Questions on page 54
Answer Unscored Tutorial Questions on page 92

Answer Unscored Tutorial Questions

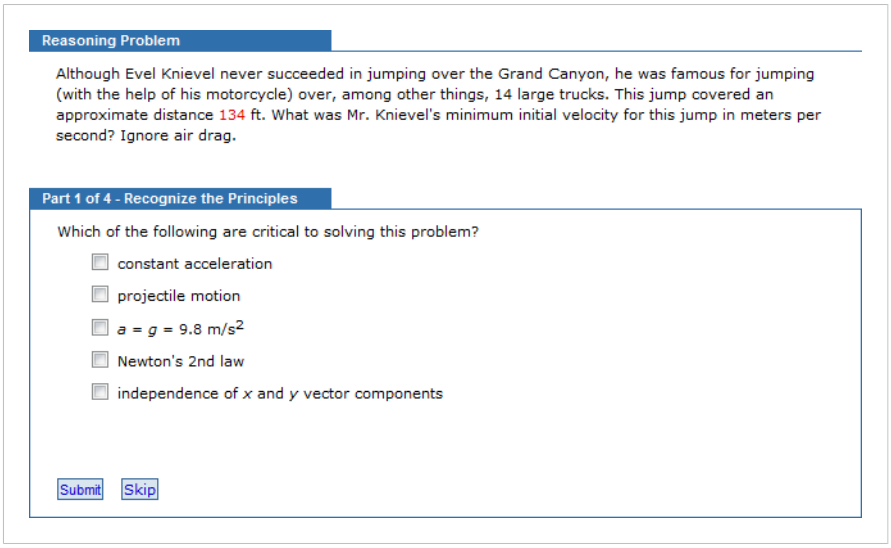
Tutorial questions have multiple parts that are completed sequentially to help you work through learning a concept. **Unscored tutorial questions** are displayed in a separate window and do not count toward your assignment score.

To answer an unscored tutorial question:

1. In your assignment, click the tutorial button to open the tutorial in a new window.

   The label and appearance of the tutorial button can vary.

2. Try to answer the first part of the question.



   - If you think you know the answer, enter it and click **Submit**.

     Your answer is scored. If your answer is incorrect, you can continue to submit new answers until you either answer the question correctly or run out of submissions. The maximum number of submissions is set by your instructor.

   - If you cannot answer the question, click **Skip**.

   After you answer the part correctly, use all of your submissions, or skip the part:

   - The answer key is shown for that part of the tutorial.
   - The next part of the tutorial is shown.

3. Try to answer the next part of the tutorial in the same way.

Continue to answer each tutorial part until you reach the end of the tutorial question.

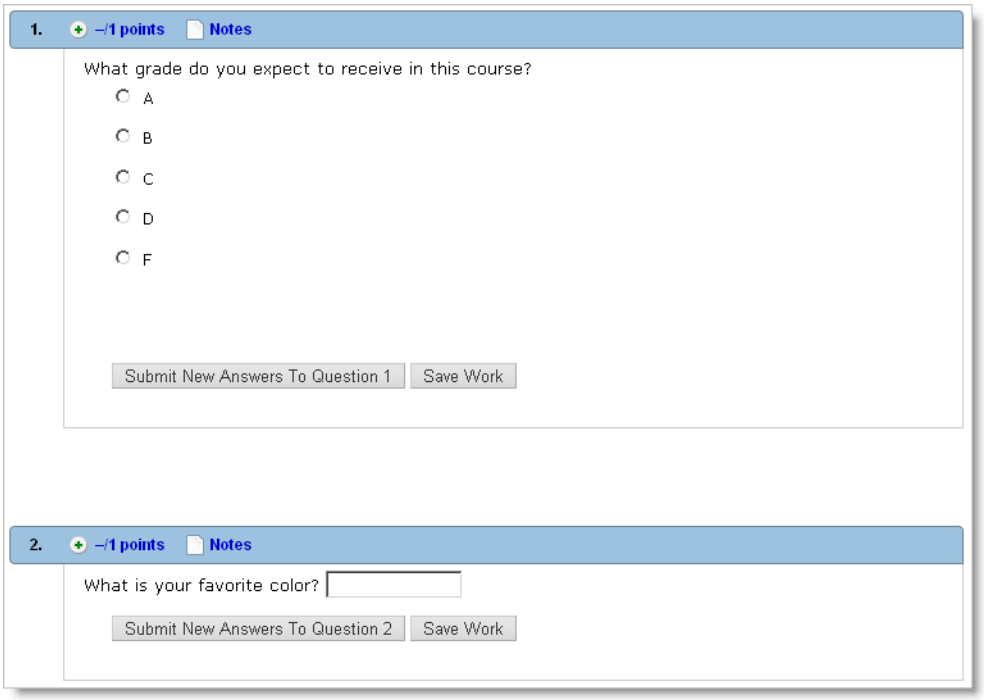
Note: Because unscored tutorials do not count toward your assignment score, you do not lose credit for parts that you skip.

See Also:

Submit Answers on page 57
Multiple-Part Questions on page 54
Answer Scored Tutorial Questions on page 91

Answer Poll Questions

Poll questions gather information. All responses are scored correct. Poll questions can be any type of question.



See Also:

Submit Answers on page 57

7

Answer Math and Science Questions

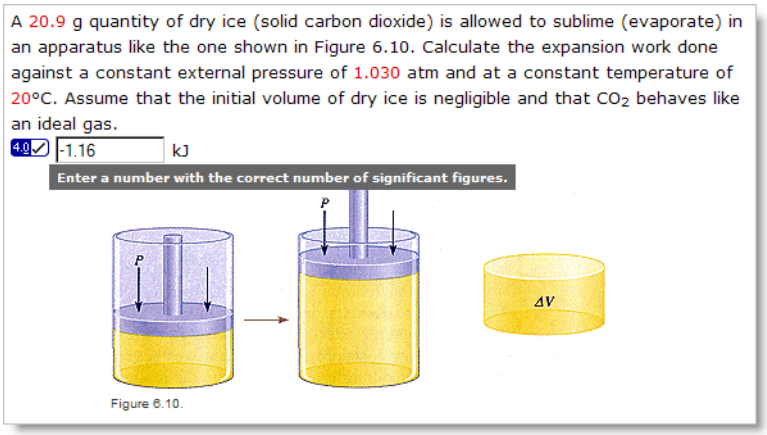
This chapter contains the following topics:

Answers to math and science questions often require using special notation. WebAssign® gives you the tools necessary to provide these answers.

Answer Numerical Questions

Numerical questions require you to enter a number for the answer. The question might also require you to enter units or to specify the correct number of significant figures. The kind of answer that is expected should be clear from the question.

If your instructor has enabled answer format tips, numerical questions are also indicated by an answer format tip that instructs you to enter a number. The exact text of the answer format tip might vary, depending on the required form of the answer and whether significant figures or units will be checked.



If your instructor has enabled it, the sigfig icon is displayed beside the answer box for questions that check for significant figures.

To answer a numerical question:

To answer a numerical question, type a number using the following notation:

Notation	Example
A decimal number	304.5
A fraction or ratio	3045/10
Scientific ("e") notation	3.045e2

Each of the examples in this table are equivalent expressions. Do not use commas or spaces to separate digits in your answer.

Unless otherwise indicated, many numerical questions also allow you to enter the following simple arithmetic expressions:

Notation	Example
A sum (+)	300+4.5
A difference (-)	404.5-100
A product (*)	30.45*10

Notation	Example
A quotient (/)	3045/10
An exponent (**)	3.045*10**2

The standard order of operations is observed: parenthetical expressions are evaluated first, followed by exponents, products and quotients, and then sums and differences.

Tip: By default, numerical questions require the answer to be within 2% of the correct value. However, particular questions, classes, or instructors might require greater accuracy, and will usually inform you if that is the case.

See Also:
Submit Answers on page 57
Answers That Cannot Be Understood on page 62

Answer Numerical Questions With Units

Numerical questions with units require you to enter both a number and a unit for the answer, for example, **`10 inches`**. The kind of answer that is expected should be clear from the question.

If enabled by your instructor, the answer format tip should indicate if units are required. The question might also require you to specify the correct number of significant figures.

To answer a numerical question with units:

If the question requires you to specify units in your answer, type a number followed by a space and a unit, for example, **`2500 meters`**.

You can use standard abbreviations for units, and you can specify any compatible unit. For example, the responses **`2500 meters`**, **`2.5 km`**, and **`2.5e+6 mm`** are all equivalent. Be sure to spell the unit or abbreviation correctly.

Tip: Your instructor might award partial credit if you specify the correct units, even if your answer is not correct.

Rules for Units

Observe the following rules when specifying units.

Rule	Incorrect	Correct
Type a space between the number and the unit.	20g 20 g	20 g
Units are case-sensitive.	1 minute = 60 S	1 minute = 60 s

Rule	Incorrect	Correct
Do not combine multiple values and units.	3 minutes 15 seconds	3.25 minutes
To change the dimension of a unit, follow the unit with a caret (^) and an exponent. Do not use the words "square" or "cubic." Do not use two asterisks (**) to specify the exponent.	3 square miles 3 mi**2	3 mi^2
To divide a unit, use /. Do not use "per."	miles per hour	miles/hour
To multiply a unit, use a space or asterisk. Do not use a raised dot or hyphen.	kW·h kilowatt-hour	kW*h kilowatt hour
Many unit names accept singular and plural forms interchangeably. Do not pluralize unit abbreviations.	3 mis	3 mi 3 miles
Do not enter a fraction for the number when units are required.	3/4 inch	0.75 inch

Unit Names for Numerical Questions

Many different unit names and abbreviations can be used in numerical questions requiring units.

Rules for Units

Observe the following rules when specifying units.

Rule	Incorrect	Correct
Type a space between the number and the unit.	20g 20 g	20 g
Units are case-sensitive.	1 minute = 60 S	1 minute = 60 s
Do not combine multiple values and units.	3 minutes 15 seconds	3.25 minutes
To change the dimension of a unit, follow the unit with a caret (^) and an exponent. Do not use the words "square" or "cubic." Do not use two asterisks (**) to specify the exponent.	3 square miles 3 mi**2	3 mi^2

Rule	Incorrect	Correct
To divide a unit, use /. Do not use "per."	miles per hour	miles/hour
To multiply a unit, use a space or asterisk. Do not use a raised dot or hyphen.	kW·h kilowatt-hour	kW*h kilowatt hour
Many unit names accept singular and plural forms interchangeably. Do not pluralize unit abbreviations.	3 mis	3 mi 3 miles
Do not enter a fraction for the number when units are required.	3/4 inch	0.75 inch

Units

This is not an exhaustive list, but includes the most commonly used units and abbreviations. For SI units, most derived units are not listed here.

Note: For units having different values in different countries, the U.S. value is used.

Unit	Abbreviation	Notes
ampere	A	
angstrom	Å, ångström	
astronomicalunit	au, AU	
atmosphere	atm	
atomicmassunit	u, amu	
bar		
becquerel	Bq	
britishthermalunit	btu	
bushel	bu	
calorie	cal	
carat	ct	
cc		Cubic centimeter. Do not use **`cubic centimeter`**.
cm^3		Cubic centimeter. Do not use **`cubic centimeter`**.
coulomb	C	
cup		
curie	Ci	

Unit	Abbreviation	Notes
day	d	
diopter		The alternative spelling “dioptre” can also be used.
dollar	$	The unit must follow the number, as in **3.25 $**. Do not specify **$3.25**.
farad	F	
foot	ft	Alternatively, feet.
foot^3/second	cfs	
gallon/hour	gal/h, gph	
gallon	gal	
grain	gr	
gram	g, gm	
henry	H	
hertz	Hz, hz	
horsepower	hp	
hour	h, hr	
inch	in	
joule	J	
kilocalorie	Calorie	
kilogram	kg	
kilometer/hour	kph	
kilowatt hour	kWh	
liter/minute	lpm	
liter/hour	L/h	
liter	L	The alternative spelling “litre” can also be used.
meter	m	The alternative spelling “metre” can also be used.
micron		
microsecond	μs, us	
mile/gallon	mpg	
mile/hour	mph	
mile	mi	
minute	min	Use for time only.

Unit	Abbreviation	Notes
mmHg		
molar	M	
mole	mol	
newton	N	
ohm		You cannot use the Ω character.
ounce	oz	
partsperbillion	ppb	Uses U.S. definition: 10^{-9}.
partspermillion	ppm	Uses U.S. definition: 10^{-6}.
partspertrillion	ppt	Uses U.S. definition: 10^{-12}.
pascal	Pa, pa	
picometer	pm	
pint	pt	
pound	lb	
proof		
psi		
quart	qt	
roentgen	rontgen, röntgen	
second	s, sec	Use for time only.
sievert	Sv	
tesla	T	
torr		
volt	V	
watt	W	
weber	Wb	
yard	yd	
year	yr	

Combining Prefixes for SI Units

The following prefixes can be combined with SI base units to specify derived units. The derived unit or abbreviation cannot contain a space between the prefix and base unit.

Prefix	Abbreviation	Value	Example
peta	P	10^{15}	1.2 Pm
tera	T	10^{12}	2.3 terajoule

Prefix	Abbreviation	Value	Example
giga	G	10^{9}	3.4 Gg
mega	M	10^{6}	4.5 megavolt
kilo	k	10^{3}	5.6 km
hecto	h	10^{2}	6.7 hectometer
deca, deka	da	10	7.8 dag
deci	d	10^{-1}	8.9 deciliter
centi	c	10^{-2}	9.0 cm
milli	m	10^{-3}	0.1 milliampere
micro	μ **Note:** You cannot substitute **u** or **mu**.	10^{-6}	2.4 μg
nano	n	10^{-9}	4.6 nanosecond
pico	p	10^{-12}	6.8 ps
femto	f	10^{-15}	8.0 femtometer

Answering Numerical Questions That Check Significant Figures

Numerical questions that check significant figures require you both to calculate the correct answer and to specify that answer using the correct number of significant digits, for example, **2.3e4** to indicate 2 significant digits. The kind of answer that is expected should be clear from the question.

If your instructor has enabled it, the sigfig icon is displayed beside the answer box for questions that check for significant figures. If enabled, the answer format tip should also indicate if you must specify the correct number of significant figures. The question might also require you to specify units.

To answer a numerical question that checks significant figures:

If the question checks for significant figures, type a number with the correct number of significant figures for your answer. The rules WebAssign® uses to specify the number of significant figures in a number are standard. They are shown in the examples below:

Rule	Example	Significant Figures
Every non-zero digit is significant.	1234	4

Rule	Example	Significant Figures
Zeros in between non-zero digits are significant.	101.001 41003	6 5
Zeros at the end of the answer when *no* decimal point is specified are not significant.	500 13000 140e-001	1 2 2
Zeros at the end of the answer when a decimal point *is* specified are significant.	500. 5.0e2 2.000 8.20000e3	3 2 4 6

Note:

- To express a number like 1000 to 2 or 3 significant figures, you must use scientific notation, for example, 1.0e3 or 1.00e3.
- If you are not sure how to determine the correct number of significant figures for a problem, refer to your textbook or ask your instructor.

If it is displayed, you can click the sigfig icon to list the rules used for significant figures in WebAssign®.

Tip: If enabled by your instructor, you might receive partial credit if you specify the correct value with more than the required number of significant figures. No credit is awarded if you specify too few significant figures.

How WebAssign® Calculates Significant Figures

Because textbooks and instructors sometimes use different rules for determining significant figures, WebAssign® might calculate the "correct" number of significant figures in a different way than you are taught in your class.

Regardless of what your instructor or textbook teaches, you must follow the rules listed here to receive credit for answers that are required to be specified to a certain number of significant figures. If your instructor or textbook teaches significant figures differently than these rules, tell your instructor. Your instructor can turn off significant figure checking for assignments.

Rules for Significant Figure Calculations in WebAssign®

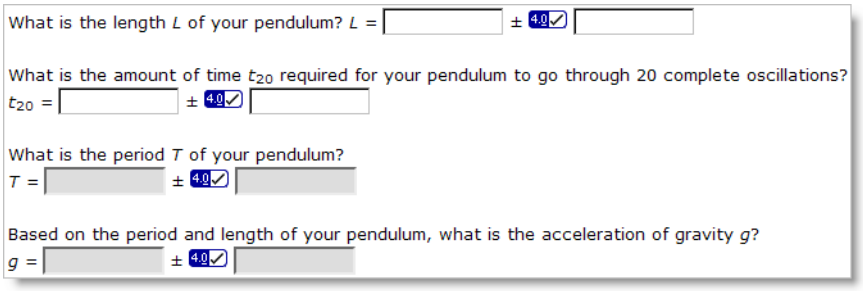
Operation	Rule	Examples
Addition	Use the fewest number of decimal places specified in any of the operands.	10 + 1 = 10 2.46 + 6.1743 = 8.63
Subtraction	Use the fewest number of decimal places specified in any of the operands.	10 - 1 = 10 3.1415 - 2.2 = 0.9

Operation	Rule	Examples
Multiplication	Use the fewest number of significant figures specified in any of the operands.	1530 × 4.0 = 6100 1530 × 4 = 6000
Division	Use the fewest number of significant figures specified in any of the operands.	444 ÷ 4 = 100 444 ÷ 111 = 4.00
Exponentiation	Use the same number of significant figures as the base.	2^{10} = 1e3 2.000^{10} = 1024
Logarithms	Use the same number of *decimal places* in the result as the number of *significant figures* in the number you are taking the logarithm of.	$\log_{10}(27)$ = 1.43 ln(0.026) = -3.65
Antilogarithms	Use the same number of *significant figures* in the result as the number of *decimal places* in the number you are taking the antilogarithm of.	$10^{3.43}$ = 2700 $e^{-3.65}$ = 0.026

Answering Answer-Dependent Numerical Questions

Some numerical questions have multiple parts that require you to enter estimated or measured values and then perform calculations based on the values you entered. These questions are often used for lab classes to record the results of an experiment and perform analysis of the data.

For these questions, the answer boxes for analyses are not enabled and are displayed with a gray background until you have entered the required values first.

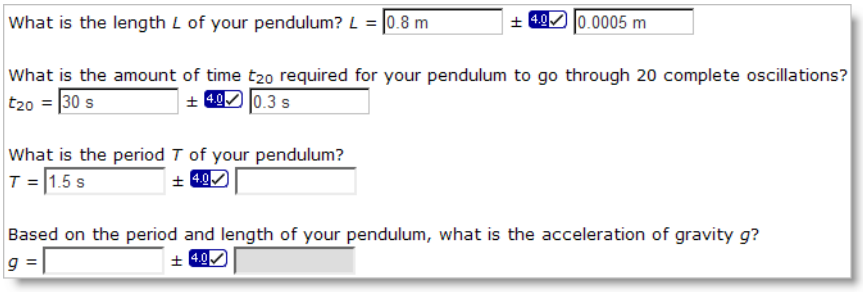


If you click an answer box that is not enabled, a message is displayed indicating that you must complete other answer boxes first.

To answer answer-dependent numerical questions:

1. Enter the requested values, specifying units or significant figures if required.

   After the required values have been entered, answer boxes for calculations dependent on those values are enabled and are displayed with a white background.



2. Enter your calculations in the appropriate answer boxes, specifying units or significant figures if required.

   For these questions, your answers are scored based on the expected range for the question and your analyses are scored based on the values you provided.

   - Your answers are marked correct if they are within the expected range and correctly specify units or significant figures, if required.

   If your answers are not within the expected range, they are marked incorrect; a prompt might also be displayed indicating why the values were not acceptable.

   - Your analyses are marked correct only if your answers are within the expected range and you have performed the calculations correctly, including units and significant figures, if required.

   If your answers are not within the expected range but your calculations were correct for the values you provided, an icon is displayed to let you know that your procedure was correct; however, no points are awarded unless both the values and the calculations are correct.

Rounding Values in WebAssign®

Some textbooks specify different rules for rounding. Regardless of the rules used in a given textbook, when numeric values are rounded in WebAssign®, they are always rounded away from zero if the rounding digit is 5.

This rounding rule is sometimes called "rounding up" but "away from zero" better describes the rule for negative values.

For example:

Original Value	Rounded to	Rounded Value
7.652	tenths place	7.7
7.652	hundredths place	7.65
7.652	two significant figures	7.7
-7.652	tenths place	-7.7
-7.652	hundredths place	-7.65
-7.652	two significant figures	-7.7

Note: In many cases, the default tolerances of ±2% or ±1 at the last significant digit allow you to round differently and be considered correct. Your instructor might have specified different tolerances.

Answering Matrix Questions

Matrix questions are displayed in arrays of numbers, symbols, or expressions that you answer in matrix or vector format. If the matrix is expandable, you are required to determine the number of boxes, rows, and columns for the correct answer.

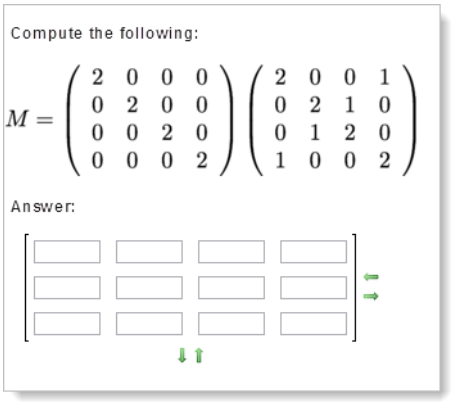
Questions with a matrix require you to provide an answer in matrix or vector format.

Note: If the matrix is expandable, you determine the number of boxes, rows, and columns for the correct answer. The default number of answer boxes shown is not necessarily the number of the answer boxes for the correct answer. You can modify the number of answer boxes by clicking the:

- right arrow to increase the number of columns
- left arrow to decrease the number of columns
- down arrow to increase the number of rows
- up arrow to decrease the number of rows

To answer a matrix question:

1. If the matrix is expandable, increase or decrease the number of columns and rows until you have the minimum number of answer boxes necessary to provide your answer.
   It is possible you might have more boxes than your answer requires. If so, only type in the boxes you need to provide your answer and leave the extra boxes blank.
2. Type your answer into the answer boxes.



3. Click **Submit Answer** or **Submit Assignment** depending on the submission options for the assignment.

Answer Symbolic Questions with Calculator Notation

Symbolic questions require you to enter a mathematical expression for the answer, but do not display a tool for entering math notation. Instead, you type your answer using calculator notation.

If your instructor has enabled answer format tips, symbolic questions are indicated by one of the following answer format tips when you click in the answer box:

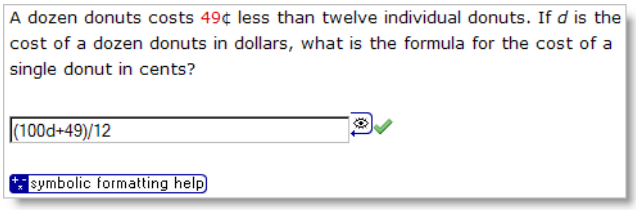
- Enter a mathematical expression
- Enter a mathematical expression or equation with exact values

Symbolic questions are often displayed with the symbolic formatting help button symbolic formatting help. You can click this button to see the allowed notation.

Any response that is equivalent to the answer formula will be graded as correct. For example, 4x+12 would be equivalent to (x+3)4. You can enter an asterisk (*) for multiplication or use implicit multiplication with variables.

To answer a symbolic question:

1. Type your answer using calculator notation and the exact variables specified in the question. Unless the question asks for your answer to be in a specific form, any mathematically correct expression that is equivalent to the key will be accepted as correct.



2. Click the preview button to see the expression you entered in formatted mathematical notation. This is often important in order to see if you have placed your parentheses correctly.

   Clicking the preview button in the above question would display the following formatted notation:

$$\frac{100d+49}{12}$$

3. Edit your response and preview it again if needed. Submit your response only when the formatted notation is correct.

Note:

- Angles for trigonometric functions are expressed in radians.
- Answers are case-sensitive; *x* and *X* are not the same.
- Do not type commas in numbers; 5,280 is not correct.

See Also:

Submit Answers on page 57
Answers That Cannot Be Understood on page 62

Calculator Notation for Symbolic Questions

Calculator notation for symbolic questions includes a number of operators and functions.

Note:

- Angles for trigonometric functions are expressed in radians.
- Answers are case-sensitive; *x* and *X* are not the same.
- Do not type commas in numbers; 5,280 is not correct.

Notation	Keyboard	Example	Notes
Addition	+	x + 1	
Subtraction	-	x - 1 -x	
Multiplication	*	4*x 4x	Implicit multiplication is allowed.
Division	/	x/4	
Exponents	^ *	x**3 or x^3	
Parentheses	( )	4/(x + 1) 3(x + 1)	
Equal	=	y = 10	
Greater than	>	y > 10	
Less than	<	y < 10	
Greater than or equal to	>=	y >= 10	
Less than or equal to	<=	y <= 10	
Absolute value	abs()	abs(-5) = 5	
Square root	sqrt()	sqrt(x/5)	
*n*th root	root*n*()	root5(x - 3)	

Notation	Keyboard	Example	Notes
Factorial	!	5! = 120 (x - 1)!	
Trigonometric functions	sin() cos() tan() sec() csc() cot()	sin(2x) atan(pi/4) cosh(y)	Angles are expressed in radians. Inverse and hyperbolic functions are also supported with notation like atan() and coth().
π	pi	2 pi x	3.14 is only an approximation of π and is not equivalent for grading.
Scientific notation	e	1e3 = 1000	
Natural log	ln()	ln(x)	
Euler's number	exp()	exp(x)	Raises Euler's number to the specified power. For example, exp(2) = e^2 .
General log	log_*b*()	log_2(x + 5)	The specified base must be a natural number.

Examples of Symbolic Questions with Calculator Notation

The following examples illustrate entry of some common expressions.

Expression	Type this	Click the preview button to display this
A simple expression with integers	`2x+52500`	$2x + 52500$
A polynomial with a fractional coefficient	`(1/2)x^2+4x+2`	$\frac{1}{2}x^2 + 4x + 2$
A simple inequality	`x>=-4`	$x \geq -4$
A square root	`sqrt(x)`	$\sqrt{x}$
A cube root	`root3(x)`	$\sqrt[3]{x}$
An expression involving pi and Euler's number	`pi+exp(2)`	π + exp(2)
The natural logarithm of an absolute value	`ln(abs(x))`	ln(|*x*|)
An inverse tangent in radians	`atan(x)`	atan(*x*)

Answer mathPad Questions

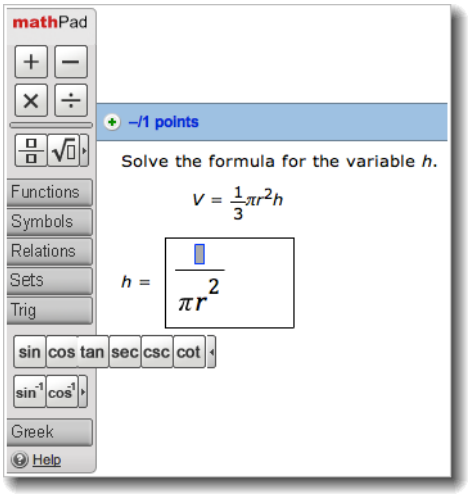
WebAssign® mathPad questions are displayed with a rectangular answer box similar to answer boxes used for other question types, but when you click a mathPad-enabled answer box, the mathPad palette opens, allowing you to answer the question with a correctly formatted mathematical expression.

Note:

- Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.
- Do not use function notation — for example, f(x) — when answering questions. WebAssign cannot grade answers that use function notation.

iPad only:

- Flash is not required.
- The location and appearance of the tools palette is different on iPad.



tool palette

When you click the answer box, a tool palette is displayed beside the question. You can click buttons in the palette to insert notation in your answer.

placeholder boxes

Some buttons insert placeholder boxes to show you where you can type numbers, variables, or expressions. For example, if you insert a fraction, placeholder boxes are displayed for both the numerator and denominator.

button groups

Many buttons are grouped together in expandable button groups. For example, the **Trig** button group includes buttons for trigonometric functions like sine and cosine.

To answer a mathPad question:

1. Click the answer box to open the tool palette.

You cannot use the keyboard to move the insertion point to the answer box. You must use the mouse. The tool palette stays open while you are working on the question.

2. Click the buttons or type to answer the question.

   The expression is displayed in the answer box as you enter it. If necessary, the answer box becomes larger to fit your answer.

To do this	**Do this**
Enter math notation.	Click tool palette buttons and type.
Display or hide additional buttons.	Click a button group, for example, **Functions**.
Enter variables.	Type the variable name using the case and spelling specified in the question. Variables are automatically italicized.
Move the insertion point in the answer box.	Press the HOME, END, and arrow keys.
Move the insertion point to a placeholder box.	Press the arrow keys or use the mouse. **Note:** Usually the insertion point is automatically moved to a placeholder box when it is created.
Move the insertion point out of a placeholder box.	Press the arrow keys or use the mouse.
Delete the character to the left of the insertion point, the selected expression, or notation such as fractions.	Press BACKSPACE
Delete the character to the right of the insertion point, the selected expression, or notation such as fractions.	Press DELETE

- Answers are case-sensitive; *x* and *X* are not the same.
- Do not type commas in numbers; 5,280 is not correct.
- In a comma-delimited list that includes fractions, put the commas between fractions and not in the numerator or denominator.
- Do not enter mixed numbers, for example, 2½. Instead, use decimals or improper fractions.
- When entering scientific notation, always use a lowercase e, for example, 1.23e-5.
- Express angles for trigonometric functions in radians.
- Keyboard characters that are not mathematically useful — for example, **&**, , **@**, and foreign language characters — are intentionally not displayed when typed. To enter Greek characters, use the buttons or keyboard shortcuts for the tool.

- Use parentheses to specify the arguments of functions explicitly, for example, sin(3*x*).

> **Note:** If you omit parentheses, spaces are used to determine the argument of the function and your answer might not be graded as you expect. For example:
>
> - **sin3*x*** is graded as $\sin(3) \times x$
> - **sin 3*x*** is graded as $\sin(3x)$

See Also:
Submit Answers on page 57
Answers That Cannot Be Understood on page 62
Typing in mathPad, calcPad, or physPad on page 205
Incorrect Characters Displayed When Typing in Some Questions on page 205

Examples of Math Notation with mathPad

The following examples illustrate entry of some common expressions.

iPad only: Some of the steps in these examples might be different when using an iPad.

Expression	Do this	To display this
A simple expression with integers	Type **2x+52500**	$2x + 52500$
A polynomial with a fractional coefficient	1. Type **1/2** and press RIGHT ARROW 2. Type **x^2** and press RIGHT ARROW 3. Type **+4x+2**	$\frac{1}{2}x^2 + 4x + 2$
A simple inequality	Type **x>=-4**	$x \geq -4$
A square root	Type **sqrt(x**	$\sqrt{x}$
A cube root	1. Click **Functions** >  2. Type **3** and press RIGHT ARROW 3. Type **x**	$\sqrt[3]{x}$
An expression involving pi and Euler's number	1. Type **pi+** 2. Click **Functions** >  3. Type **2**	$\pi + e^2$

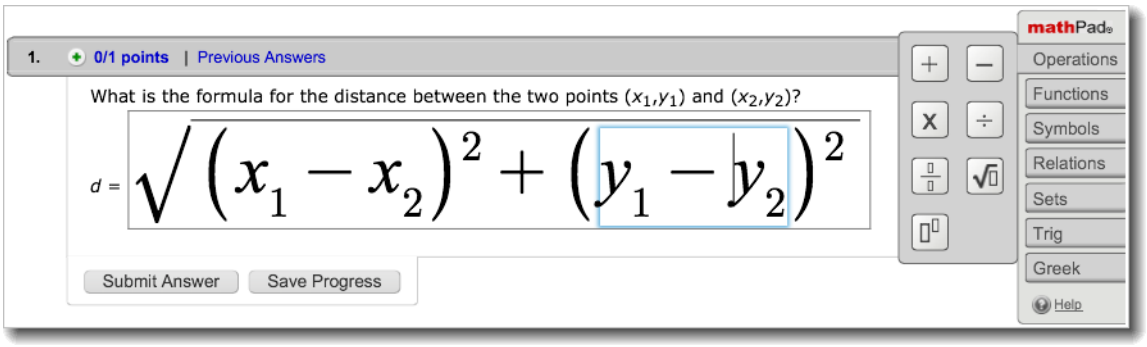
Expression	Do this	To display this

The natural logarithm of an absolute value	Type either of the following:
	`ln(|x|)`
	`ln(abs(x))`
		ln(|*x*|)

A complex number	1. Type **2+3** 2. Click **Symbols** > 	2 + 3*i*

mathPad on an iPad

You can answer mathPad questions in Safari on iPad with iOS 5 or later.



This tool is tested and supported only for Safari on iPad with iOS 5 or later.

Note:

- Other browsers and iOS versions might work, but are not supported.
- Performance might be slower on iPad® 1 than on iPad® 2.
- Using a Bluetooth keyboard with your iPad® might work, but is not supported. Navigation keys on Bluetooth keyboards do not move the insertion point.

It makes no difference to your grade whether you complete your work on an iPad or on another supported platform. However, there are some differences in how you work on the iPad:

- The tools palette is displayed on the right.
- The locations of some buttons are different. Specifically, all buttons are contained in button groups.
- The expression is displayed larger while you are editing it.
- You cannot copy or paste parts of the expression.
- Tapping the pad button is usually faster and easier than using the keyboard.
- Typing an opening parenthesis, bracket, or brace automatically inserts a closing parenthesis, bracket, or brace.

Tip: To prevent the on-screen keyboard from hiding part of the problem or your work, turn your iPad to work in portrait mode. Also, consider using a split keyboard.

See Also:
Problems Working on iPad on page 202

mathPad Reference

You can enter the following notation in mathPad.

Note:

- Some functions have more than one keyboard shortcut. The displayed notation depends on which shortcut you use. Both notations are graded identically.

iPad only:

- Tapping the pad button is usually faster and easier than using the keyboard.
- Typing an opening parenthesis, bracket, or brace automatically inserts a closing parenthesis, bracket, or brace.

Notation	Keyboard	Button Group	Button
Decimal numbers	0123456789.		
Fractions	/	iPad only: **Operations**	
Variables	Type variables exactly as specified in the question. Variable names are displayed in italics. Variables are case-sensitive. You cannot substitute *x* for *X*.		
Addition	+	iPad only: **Operations**	
Subtraction	-	iPad only: **Operations**	
Multiplication	*	iPad only: **Operations**	
Division		iPad only: **Operations**	
Parentheses	( )	**Sets**	
Factorial	*n*!		
Square root	sqrt(*n*)	iPad only: **Operations**	

Notation	Keyboard	Button Group	Button
Exponent	^	iPad only: **Operations**	
Base or subscript	_	**Functions**	
Exponent and subscript of a variable	*n_b* RIGHT ARROW ^*x*	**Functions**	
***n*th root**		**Functions**	
Absolute value	abs(*n*) |*n*|	**Functions**	
Exponential function	e^*n* exp(*n*)	**Functions**	
Natural logarithm	ln(*n*)	**Functions**	
Power of 10	10^*n*	**Functions**	
Logarithm (base 10)	log(*n*)	**Functions**	
General Log	log_*b* RIGHT ARROW (*n*)	**Functions**	
pi	pi	**Symbols** and **Greek**	
theta	theta	**Symbols** and **Greek**	
Infinity	infinity	**Symbols**	
Undefined		**Symbols**	
Imaginary unit		**Symbols**	
Degrees		**Symbols**	
Equal	=	**Relations**	
Greater than	>	**Relations**	
Greater than or equal to	>=	**Relations**	
Less than	<	**Relations**	
Less than or equal to	>=	**Relations**	
No solution	NO SOLUTION	**Relations**	

Notation	Keyboard	Button Group	Button
Set delimiters (braces)	{ }	**Sets**	{□}
Closed interval (brackets)	[*a*,*b*]	**Sets**	[□]
Open interval (parentheses)	(*a*,*b*)	**Sets**	(□)
Half-closed interval (half-open interval)	[*a*,*b*) (*a*,*b*] iPad only: You cannot type this notation.	iPad only: **Sets**	iPad only: [□) or (□]
Empty set	iPad only: empty	**Sets**	∅
Union	union	**Sets**	∪
Intersection	intersect	**Sets**	∩
Sine	sin(*n*)	**Trig**	sin
Cosine	cos(*n*)	**Trig**	cos
Tangent	tan(*n*)	**Trig**	tan
Cosecant	csc(*n*)	**Trig**	csc
Secant	sec(*n*)	**Trig**	sec
Cotangent	cot(*n*)	**Trig**	cot
Inverse sine (arcsine)	sin^-1 RIGHT ARROW (*n*) arcsin(*n*)	**Trig**	$\sin^{-1}$
Inverse cosine (arccosine)	cos^-1 RIGHT ARROW (*n*) arccos(*n*)	**Trig**	$\cos^{-1}$
Inverse tangent (arctangent)	tan^-1 RIGHT ARROW (*n*) arctan(*n*)	**Trig**	$\tan^{-1}$
Inverse cosecant (arccosecant)	csc^-1 RIGHT ARROW (*n*) arccsc(*n*)	**Trig**	$\csc^{-1}$
Inverse secant (arcsecant)	sec^-1 RIGHT ARROW (*n*) arcsec(*n*)	**Trig**	$\sec^{-1}$

Notation	Keyboard	Button Group	Button
Inverse cotangent (arccotangent)	`cot^-1` RIGHT ARROW (*n*) `arccot(`*n*`)`	**Trig**	
Lowercase Greek letter	Name of the letter in lowercase, for example, alpha, beta, gamma.	**Greek**	
Uppercase Greek letter	Capitalized name of the letter, for example, Alpha, Beta, Gamma.	**Greek**	

See Also:

Typing in mathPad, calcPad, or physPad on page 205
Incorrect Characters Displayed When Typing in Some Questions on page 205

Select, Copy, and Paste Expressions in mathPad, calcPad, and physPad

You can select, copy, and paste expressions in the mathPad, calcPad, and physPad tools.

Sometimes, you need to select a part of your expression, for example, to use the selection as the argument of a function. You also select part of your expression to cut or copy it.

Note:

- iPad only: You can select, but not copy or paste. Selecting part of a math expression is performed differently than selecting text.
- You can only paste in the same answer box that you copied or cut from.

To select part of an expression:

- Drag the mouse or use the SHIFT+LEFT ARROW or SHIFT+RIGHT ARROW keys.

  To select the entire expression, press CTRL+A.
- iPad only: Double-tap what you want to select. Double-tap another location to extend your selection.

Tip: Double-tap your selection to expand it. For example, in the expression 3*x*/2:

1. Double-tap 3 to select 3.
2. Double-tap the selection to select 3*x*.
3. Double-tap the selection again to select the entire fraction.

To copy and paste:

1. Select part of an expression to be copied or cut.
2. Copy or cut the selection.
   - To copy your selection, press CTRL+C.
   - To cut your selection, press CTRL+X.
3. Move the insertion point in the expression to where you want to paste what you copied.
4. Press CTRL+V.

Answer calcPad Questions

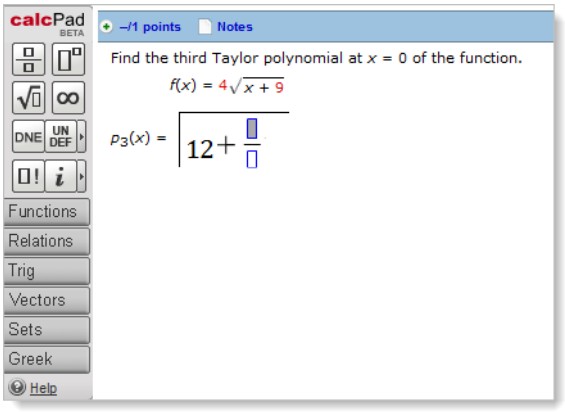
WebAssign® calcPad questions are displayed with a rectangular answer box similar to answer boxes used for other question types, but when you click a calcPad-enabled answer box, the calcPad palette opens, allowing you to answer the question with a correctly formatted mathematical expression.

Note:

- Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.
- Do not use function notation — for example, $f(x)$ — when answering questions. WebAssign cannot grade answers that use function notation.

iPad only:

- Flash is not required.
- The location and appearance of the tools palette is different on iPad.



tool palette

When you click the answer box, a tool palette is displayed beside the question. You can click buttons in the palette to insert notation in your answer.

placeholder boxes

Some buttons insert placeholder boxes to show you where you can type numbers, variables, or expressions. For example, if you insert a fraction, placeholder boxes are displayed for both the numerator and denominator.

button groups

Many buttons are grouped together in expandable button groups. For example, the **Trig** button group includes buttons for trigonometric functions like sine and cosine.

To answer a calcPad question:

1. Click the answer box to open the tool palette.

   You cannot use the keyboard to move the insertion point to the answer box. You must use the mouse. The tool palette stays open while you are working on the question.

2. Click the buttons or type to answer the question.

   The expression is displayed in the answer box as you enter it. If necessary, the answer box becomes larger to fit your answer.

To do this	Do this
Enter math notation.	Click tool palette buttons and type.
Display or hide additional buttons.	Click a button group, for example, **Functions**.
Enter variables.	Type the variable name using the case and spelling specified in the question. Variables are automatically italicized.
Move the insertion point in the answer box.	Press the HOME, END, and arrow keys.

To do this	Do this
Move the insertion point to a placeholder box.	Press the arrow keys or use the mouse. **Note:** Usually the insertion point is automatically moved to a placeholder box when it is created.
Move the insertion point out of a placeholder box.	Press the arrow keys or use the mouse.
Delete the character to the left of the insertion point, the selected expression, or notation such as fractions.	Press BACKSPACE
Delete the character to the right of the insertion point, the selected expression, or notation such as fractions.	Press DELETE

- Answers are case-sensitive; *x* and *X* are not the same.
- Do not type commas in numbers; 5,280 is not correct.
- In a comma-delimited list that includes fractions, put the commas between fractions and not in the numerator or denominator.
- Do not enter mixed numbers, for example, 2½. Instead, use decimals or improper fractions.
- When entering scientific notation, always use a lowercase e, for example, 1.23e-5.
- Express angles for trigonometric functions in radians.
- Keyboard characters that are not mathematically useful — for example, **&**, , **@**, and foreign language characters — are intentionally not displayed when typed. To enter Greek characters, use the buttons or keyboard shortcuts for the tool.
- Use parentheses to specify the arguments of functions explicitly, for example, sin(3*x*).

Note: If you omit parentheses, spaces are used to determine the argument of the function and your answer might not be graded as you expect. For example:

- **sin3*x*** is graded as $\sin(3) \times x$
- **sin 3*x*** is graded as $\sin(3x)$

See Also:

Submit Answers on page 57
Answers That Cannot Be Understood on page 62
Typing in mathPad, calcPad, or physPad on page 205
Incorrect Characters Displayed When Typing in Some Questions on page 205

Examples of Math Notation with calcPad

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
A simple expression with integers	Type **2x+52500**	$2x + 52500$
A polynomial with a fractional coefficient	1. Type **1/2** and press the RIGHT ARROW key 2. Type **x^2** and press the RIGHT ARROW key 3. Type **+4x+2**	$\frac{1}{2}x^2 + 4x + 2$
A simple inequality	Type **x>=-4**	$x \geq -4$
A square root	Type **sqrt(x**	$\sqrt{x}$
A cube root	1. Click **Functions** >  2. Type **3** and press the RIGHT ARROW key 3. Type **x**	$\sqrt[3]{x}$
An expression involving pi and Euler's number	1. Type **pi+** 2. Click **Functions** >  3. Type **2**	$\pi + e^2$

The natural logarithm of an absolute value	Type either of the following:
	`ln(|x|)`
	`ln(abs(x))`
		$\ln(\|x\|)$

A complex number	1. Type **2+3** 2. Click 	$2 + 3i$
A vector in vector bracket form	1. Click **Vectors** >  2. Type **12, 15, 22**	$\langle 12, 15, 22 \rangle$

Expression	Do this	To display this
A vector in i-j-k form	1. Type **5** 2. Click **Vectors** > i 3. Type **+24** 4. Click **Vectors** > j 5. Type **+4** 6. Click **Vectors** > k	5**i** + 24**j** + 4**k**

calcPad on an iPad

You can answer calcPad questions in Safari on iPad with iOS 5 or later.

This tool is tested and supported only for Safari on iPad with iOS 5 or later.

Note:

- Other browsers and iOS versions might work, but are not supported.
- Performance might be slower on iPad® 1 than on iPad® 2.
- Using a Bluetooth keyboard with your iPad® might work, but is not supported. Navigation keys on Bluetooth keyboards do not move the insertion point.

It makes no difference to your grade whether you complete your work on an iPad or on another supported platform. However, there are some differences in how you work on the iPad:

- The tools palette is displayed on the right.
- The locations of some buttons are different. Specifically, all buttons are contained in button groups.
- The expression is displayed larger while you are editing it.
- You cannot copy or paste parts of the expression.
- Tapping the pad button is usually faster and easier than using the keyboard.

- Typing an opening parenthesis, bracket, or brace automatically inserts a closing parenthesis, bracket, or brace.

Tip: To prevent the on-screen keyboard from hiding part of the problem or your work, turn your iPad to work in portrait mode. Also, consider using a split keyboard.

See Also:

Problems Working on iPad on page 202

calcPad Reference

You can enter the following notation in calcPad.

Note:

- Some functions have more than one keyboard shortcut. The displayed notation depends on which shortcut you use. Both notations are graded identically.

iPad only:

- Tapping the pad button is usually faster and easier than using the keyboard.
- Typing an opening parenthesis, bracket, or brace automatically inserts a closing parenthesis, bracket, or brace.

Notation	Keyboard	Button Group	Button
Decimal numbers	`0123456789.`		
Fractions	/	iPad only: **Operations**	
Variables	Type variables exactly as specified in the question. Variable names are displayed in italics. Variables are case-sensitive. You cannot substitute *x* for *X*.		
Addition	+		
Subtraction	-		
Multiplication	*		
Division	**Note:** Express as fractions.		
Parentheses	( )	iPad only: **Sets**	
Square root	`sqrt(n)`	iPad only: **Operations**	

Notation	Keyboard	Button Group	Button
Exponent	^	iPad only: **Operations**	
Factorial	*n*!	iPad only: **Operations**	
Base or subscript	_	**Functions**	
Exponent and subscript of a variable	*n_b* RIGHT ARROW ^*x*	**Functions**	
***n*th root**		**Functions**	
Absolute value	abs(*n*) |*n*|	**Functions**	
Exponential function	e^*n* exp(*n*)	**Functions**	
Natural logarithm	ln(*n*)	**Functions**	
Power of 10	10^*n*	**Functions**	
Logarithm (base 10)	log(*n*)	**Functions**	
General Log	log_*b* RIGHT ARROW (*n*)	**Functions**	
Infinity	infinity	iPad only: **Symbols**	
Does not exist	DNE	iPad only: **Symbols**	
Undefined		iPad only: **Symbols**	
Imaginary unit		iPad only: **Symbols**	
Degrees		iPad only: **Symbols**	
Equal	=	**Relations**	
Greater than	>	**Relations**	
Greater than or equal to	>=	**Relations**	
Less than	<	**Relations**	
Less than or equal to	>=	**Relations**	
No solution	NO SOLUTION	**Relations**	

Notation	Keyboard	Button Group	Button
Sine	sin(*n*)	**Trig**	sin
Cosine	cos(*n*)	**Trig**	cos
Tangent	tan(*n*)	**Trig**	tan
Cosecant	csc(*n*)	**Trig**	csc
Secant	sec(*n*)	**Trig**	sec
Cotangent	cot(*n*)	**Trig**	cot
Inverse sine (arcsine)	sin^-1 RIGHT ARROW (*n*) arcsin(*n*)	**Trig**	$\sin^{-1}$
Inverse cosine (arccosine)	cos^-1 RIGHT ARROW (*n*) arccos(*n*)	**Trig**	$\cos^{-1}$
Inverse tangent (arctangent)	tan^-1 RIGHT ARROW (*n*) arctan(*n*)	**Trig**	$\tan^{-1}$
Inverse cosecant (arccosecant)	csc^-1 RIGHT ARROW (*n*) arccsc(*n*)	**Trig**	$\csc^{-1}$
Inverse secant (arcsecant)	sec^-1 RIGHT ARROW (*n*) arcsec(*n*)	**Trig**	$\sec^{-1}$
Inverse cotangent (arccotangent)	cot^-1 RIGHT ARROW (*n*) arccot(*n*)	**Trig**	$\cot^{-1}$
Hyperbolic sine	sinh(*n*)	**Trig**	sinh
Hyperbolic cosine	cosh(*n*)	**Trig**	cosh
Hyperbolic tangent	tanh(*n*)	**Trig**	tanh
Hyperbolic cosecant	csch(*n*)	**Trig**	csch
Hyperbolic secant	sech(*n*)	**Trig**	sech
Hyperbolic cotangent	coth(*n*)	**Trig**	coth
Inverse hyperbolic sine (area hyperbolic sine)	sinh^-1 RIGHT ARROW (*n*) arcsinh(*n*)	**Trig**	$\sinh^{-1}$

Notation	Keyboard	Button Group	Button
Inverse hyperbolic cosine (area hyperbolic cosine)	`cosh^-1` RIGHT ARROW (*n*) `arccosh(`*n*`)`	**Trig**	
Inverse hyperbolic tangent (area hyperbolic tangent)	`tanh^-1` RIGHT ARROW (*n*) `arctanh(`*n*`)`	**Trig**	
Inverse hyperbolic cosecant (area hyperbolic cosecant)	`csch^-1` RIGHT ARROW (*n*) `arccsch(`*n*`)`	**Trig**	
Inverse hyperbolic secant (area hyperbolic secant)	`sech^-1` RIGHT ARROW (*n*) `arcsech(`*n*`)`	**Trig**	
Inverse hyperbolic cotangent (area hyperbolic cotangent)	`coth^-1` RIGHT ARROW (*n*) `arccoth(`*n*`)`	**Trig**	
Bold vector		**Vectors**	
Vector bracket		**Vectors**	
Arrow vector		**Vectors**	
i unit vector		**Vectors**	
j unit vector		**Vectors**	
k unit vector		**Vectors**	
Unit vector (hat vector)		**Vectors**	
theta	`theta`	**Greek**	
pi	`pi`	**Greek**	
Set delimiters (braces)	`{  }`	iPad only: **Sets**	
Closed interval (brackets)	`[`*a*`,`*b*`]`	iPad only: **Sets**	
Open interval (parentheses)	`(`*a*`,`*b*`)`	iPad only: **Sets**	

Half-closed interval (half-open interval)	`[`*a*`,`*b*`)`
	`(`*a*`,`*b*`]`
	iPad only: You cannot type this notation.
		iPad only: **Sets**	iPad only: or

Notation	Keyboard	Button Group	Button
Empty set	iPad only: `empty`	iPad only: **Sets**	
Union	`union`	**Sets**	
Intersection	`intersect`	**Sets**	
Lowercase Greek letter	Name of the letter in lowercase, for example, alpha, beta, gamma.	**Greek**	
Uppercase Greek letter	Capitalized name of the letter, for example, Alpha, Beta, Gamma.	**Greek**	

See Also:
Typing in mathPad, calcPad, or physPad on page 205
Incorrect Characters Displayed When Typing in Some Questions on page 205

Answer physPad Questions

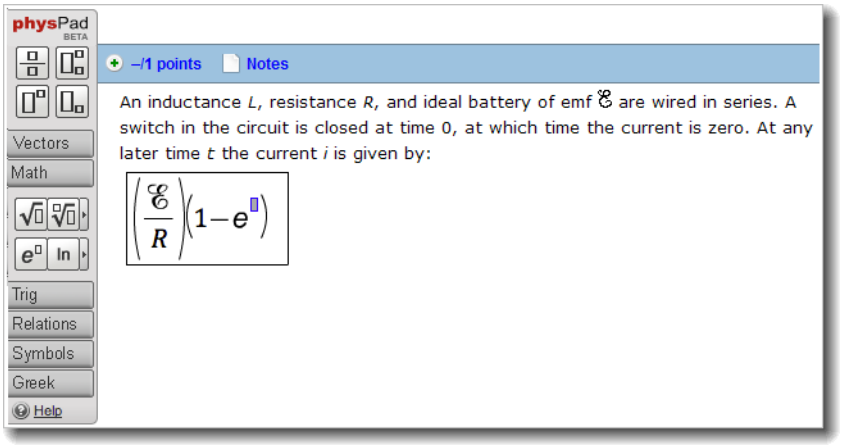
WebAssign® physPad questions are displayed with a rectangular answer box similar to answer boxes used for other question types, but when you click a physPad-enabled answer box, the physPad palette opens, allowing you to answer the question with correctly formatted physics notation.

Note:

- Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.
- Do not use function notation — for example, $f(x)$ — when answering questions. WebAssign cannot grade answers that use function notation.

iPad only:

- Flash is not required.
- The location and appearance of the tools palette is different on iPad.



tool palette

When you click the answer box, a tool palette is displayed beside the question. You can click buttons in the palette to insert notation in your answer.

placeholder boxes

Some buttons insert placeholder boxes to show you where you can type numbers, variables, or expressions. For example, if you insert a fraction, placeholder boxes are displayed for both the numerator and denominator.

button groups

Many buttons are grouped together in expandable button groups. For example, the **Trig** button group includes buttons for trigonometric functions like sine and cosine.

To answer a physPad question:

1. Click the answer box to open the tool palette.

   You cannot use the keyboard to move the insertion point to the answer box. You must use the mouse. The tool palette stays open while you are working on the question.

2. Click the buttons or type to answer the question.

   The expression is displayed in the answer box as you enter it. If necessary, the answer box becomes larger to fit your answer.

To do this	Do this
Enter math notation.	Click tool palette buttons and type.
Display or hide additional buttons.	Click a button group, for example, **Functions**.
Enter variables.	Type the variable name using the case and spelling specified in the question. Variables are automatically italicized.
Move the insertion point in the answer box.	Press the HOME, END, and arrow keys.

To do this	Do this
Move the insertion point to a placeholder box.	Press the arrow keys or use the mouse. **Note:** Usually the insertion point is automatically moved to a placeholder box when it is created.
Move the insertion point out of a placeholder box.	Press the arrow keys or use the mouse.
Delete the character to the left of the insertion point, the selected expression, or notation such as fractions.	Press BACKSPACE
Delete the character to the right of the insertion point, the selected expression, or notation such as fractions.	Press DELETE

- Answers are case-sensitive; *x* and *X* are not the same.
- Do not type commas in numbers; 5,280 is not correct.
- In a comma-delimited list that includes fractions, put the commas between fractions and not in the numerator or denominator.
- Do not enter mixed numbers, for example, 2½. Instead, use decimals or improper fractions.
- When entering scientific notation, always use a lowercase e, for example, 1.23e-5.
- Express angles for trigonometric functions in radians.
- Keyboard characters that are not mathematically useful — for example, **&**, , **@**, and foreign language characters — are intentionally not displayed when typed. To enter Greek characters, use the buttons or keyboard shortcuts for the tool.
- Use parentheses to specify the arguments of functions explicitly, for example, sin(3*x*).

Note: If you omit parentheses, spaces are used to determine the argument of the function and your answer might not be graded as you expect. For example:

- **sin3*x*** is graded as $\sin(3) \times x$
- **sin 3*x*** is graded as $\sin(3x)$

See Also:

Submit Answers on page 57
Answers That Cannot Be Understood on page 62
Typing in mathPad, calcPad, or physPad on page 205
Incorrect Characters Displayed When Typing in Some Questions on page 205

Examples of Physics Notation with physPad

The following examples illustrate entry of some common expressions.

Expression	Do this	To display this
An expression with numbers and subscripted variables	1. Type **1/2** and press the RIGHT ARROW key 2. Type **m_2** and press the RIGHT ARROW key 3. Type **+4m_3**	$\frac{1}{2}$
A square root	Type **sqrt(gh**	$\sqrt{gh}$
A cube root	1. Click **Math** > $\sqrt[\square]{\square}$ 2. Type **3** and press the RIGHT ARROW key 3. Type **m_1** and press the RIGHT ARROW key 4. Type **m_2** and press the RIGHT ARROW key 5. Type **m_3** and press the RIGHT ARROW key	$\sqrt[3]{m_1 m_2 m_3}$
An expression involving Euler's number	1. Click **Math** > $e^{\square}$ 2. Type **2**	e^2
An expression involving hbar ($\hbar$)	1. Type **3** 2. Click **Symbols** > $\hbar$ 3. Type **^2**	$3\hbar^2$
A vector in hatted i-j-k form	1. Type **5** 2. Click **Vectors** > $\hat{\square}$ 3. Type **i** and press the RIGHT ARROW key 4. Type **+24** 5. Click **Vectors** > $\hat{\square}$ 6. Type **j** and press the RIGHT ARROW key 7. Type **+4** 8. Click **Vectors** > $\hat{\square}$ 9. Type **k**	$5\hat{i}+24\hat{j}+4\hat{k}$

Expression	Do this	To display this
A vector in bold i-j-k form	1. Type **5** 2. Click **Vectors** > i 3. Type **+24** 4. Click **Vectors** > j 5. Type **+4** 6. Click **Vectors** > k	5**i** + 24**j** + 4**k**
A vector in vector bracket form	1. Click **Vectors** > ⟨□⟩ 2. Type **12, 15, 22**	⟨12, 15, 22⟩

physPad on an iPad

You can answer physPad questions in Safari on iPad with iOS 5 or later.

This tool is tested and supported only for Safari on iPad with iOS 5 or later.

Note:

- Other browsers and iOS versions might work, but are not supported.
- Performance might be slower on iPad® 1 than on iPad® 2.
- Using a Bluetooth keyboard with your iPad® might work, but is not supported. Navigation keys on Bluetooth keyboards do not move the insertion point.

It makes no difference to your grade whether you complete your work on an iPad or on another supported platform. However, there are some differences in how you work on the iPad:

- The tools palette is displayed on the right.
- The locations of some buttons are different. Specifically, all buttons are contained in button groups.
- The expression is displayed larger while you are editing it.
- You cannot copy or paste parts of the expression.
- Tapping the pad button is usually faster and easier than using the keyboard.
- Typing an opening parenthesis, bracket, or brace automatically inserts a closing parenthesis, bracket, or brace.

Tip: To prevent the on-screen keyboard from hiding part of the problem or your work, turn your iPad to work in portrait mode. Also, consider using a split keyboard.

See Also:

Problems Working on iPad on page 202

physPad Reference

You can enter the following notation in physPad.

Note: Some functions have more than one keyboard shortcut. The displayed notation depends on which shortcut you use. Both notations are graded identically.

Notation	Keyboard	Button Group	Button
Decimal numbers	0123456789.		
Fractions	/	iPad only: **Operations**	
Variables	Type variables exactly as specified in the question. Variable names are displayed in italics. Variables are case-sensitive. You cannot substitute *x* for *X*.		
Addition	+		
Subtraction	-		
Multiplication	*		
Division	**Note:** Express as fractions.		
Parentheses	( )	iPad only: **Sets**	
Square root	sqrt(*n*)	iPad only: **Operations**	
Exponent	^	iPad only: **Operations**	
Factorial	*n*!	iPad only: **Operations**	
Base or subscript	_	iPad only: **Operations**	
Exponent and subscript of a variable	*n_b* RIGHT ARROW *^x*	iPad only: **Operations**	
***n*th root**		**Math** iPad only: **Operations**	
Absolute value	|*n*|	**Math** iPad only: **Operations**	

Notation	Keyboard	Button Group	Button
Exponential function	e^*n* exp(	**Math** iPad only: **Operations**	
Natural logarithm	ln(*n*)	**Math** iPad only: **Operations**	
Power of 10	10^*n*	**Math** iPad only: **Operations**	
Logarithm (base 10)	log(*n*)	**Math** iPad only: **Operations**	
General Log	log_*b* RIGHT ARROW (*n*)	**Math** iPad only: No button. Use keyboard shortcut.	 iPad only: No button. Use keyboard shortcut.
Infinity	infinity	**Symbols**	
Does not exist	DNE	iPad only: **Symbols**	
Undefined		iPad only: **Symbols**	
Imaginary unit		iPad only: **Symbols**	
Degrees		iPad only: **Symbols**	
Script l		**Symbols**	
Script E		**Symbols**	
Overline		**Symbols**	
hbar	*hbar*	**Symbols**	
Perpendicular		**Symbols**	
Parallel		**Symbols**	
Equal	=	**Relations**	
Greater than	>	**Relations**	
Greater than or equal to	>=	**Relations**	
Less than	<	**Relations**	

Notation	Keyboard	Button Group	Button
Less than or equal to	>=	**Relations**	≤
No solution	NO SOLUTION	**Relations**	NO SOL
Sine	sin(*n*)	**Trig**	sin
Cosine	cos(*n*)	**Trig**	cos
Tangent	tan(*n*)	**Trig**	tan
Cosecant	csc(*n*)	**Trig**	csc
Secant	sec(*n*)	**Trig**	sec
Cotangent	cot(*n*)	**Trig**	cot
Inverse sine (arcsine)	sin^-1 RIGHT ARROW (*n*) arcsin(*n*)	**Trig**	$\sin^{-1}$
Inverse cosine (arccosine)	cos^-1 RIGHT ARROW (*n*) arccos(*n*)	**Trig**	$\cos^{-1}$
Inverse tangent (arctangent)	tan^-1 RIGHT ARROW (*n*) arctan(*n*)	**Trig**	$\tan^{-1}$
Inverse cosecant (arccosecant)	csc^-1 RIGHT ARROW (*n*) arccsc(*n*)	**Trig**	$\csc^{-1}$
Inverse secant (arcsecant)	sec^-1 RIGHT ARROW (*n*) arcsec(*n*)	**Trig**	$\sec^{-1}$
Inverse cotangent (arccotangent)	cot^-1 RIGHT ARROW (*n*) arccot(*n*)	**Trig**	$\cot^{-1}$
Hyperbolic sine	sinh(*n*)	**Trig**	sinh
Hyperbolic cosine	cosh(*n*)	**Trig**	cosh
Hyperbolic tangent	tanh(*n*)	**Trig**	tanh
Hyperbolic cosecant	csch(*n*)	**Trig**	csch
Hyperbolic secant	sech(*n*)	**Trig**	sech
Hyperbolic cotangent	coth(*n*)	**Trig**	coth

Notation	Keyboard	Button Group	Button
Inverse hyperbolic sine (area hyperbolic sine)	`sinh^-1` RIGHT ARROW (*n*) `arcsinh(`*n*`)`	**Trig**	
Inverse hyperbolic cosine (area hyperbolic cosine)	`cosh^-1` RIGHT ARROW (*n*) `arccosh(`*n*`)`	**Trig**	
Inverse hyperbolic tangent (area hyperbolic tangent)	`tanh^-1` RIGHT ARROW (*n*) `arctanh(`*n*`)`	**Trig**	
Inverse hyperbolic cosecant (area hyperbolic cosecant)	`csch^-1` RIGHT ARROW (*n*) `arccsch(`*n*`)`	**Trig**	
Inverse hyperbolic secant (area hyperbolic secant)	`sech^-1` RIGHT ARROW (*n*) `arcsech(`*n*`)`	**Trig**	
Inverse hyperbolic cotangent (area hyperbolic cotangent)	`coth^-1` RIGHT ARROW (*n*) `arccoth(`*n*`)`	**Trig**	
Bold vector		**Vectors**	
Vector bracket		**Vectors**	
Arrow vector		**Vectors**	
i unit vector		**Vectors**	
j unit vector		**Vectors**	
k unit vector		**Vectors**	
Unit vector (hat vector)		**Vectors**	
theta	`theta`	**Greek**	
pi	`pi`	**Greek**	
Set delimiters (braces)	`{  }`	iPad only: **Sets**	
Closed interval (brackets)	[*a*,*b*]	iPad only: **Sets**	
Open interval (parentheses)	(*a*,*b*)	iPad only: **Sets**	

Notation	Keyboard	Button Group	Button

Half-closed interval (half-open interval)	`[a,b)`
	`(a,b]`
	iPad only: You cannot type this notation.
		iPad only: **Sets**	iPad only: [▯) or (▯]

Empty set	iPad only: `empty`	iPad only: **Sets**	Ø
Union	`union`	**Sets**	∪
Intersection	`intersect`	**Sets**	∩
Lowercase Greek letter	Name of the letter in lowercase, for example, alpha, beta, gamma.	**Greek**	α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω
Uppercase Greek letter	Capitalized name of the letter, for example, Alpha, Beta, Gamma.	**Greek**	Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω

See Also:
Typing in mathPad, calcPad, or physPad on page 205
Incorrect Characters Displayed When Typing in Some Questions on page 205

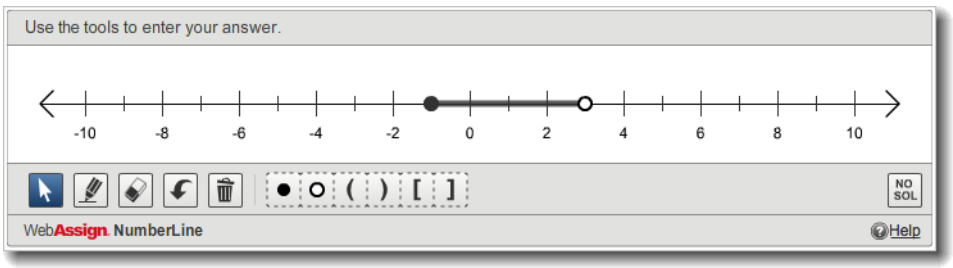
Answer NumberLine Questions

WebAssign® NumberLine™ questions require you either to draw objects or to place labeled points on a number line.

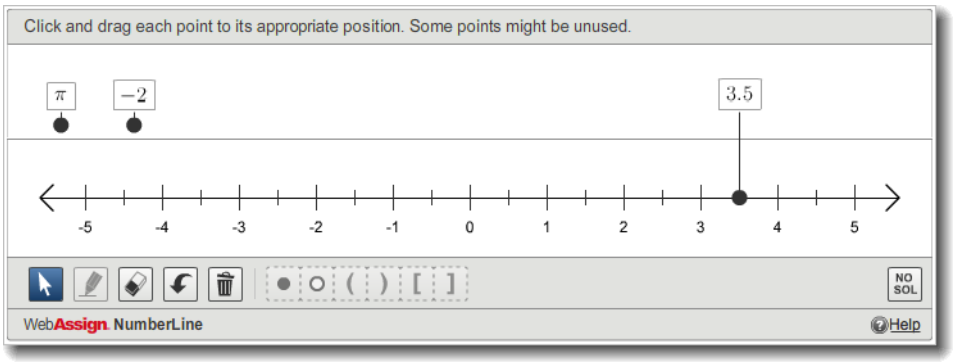
Note: Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.

iPad only: Flash is not required.

Most NumberLine questions require you to draw objects, for example, to graph an interval or inequality. For these questions, NumberLine is displayed with all of the tools active below the number line.



Some NumberLine questions require you to place labeled points on the number line. For these questions, a set of labeled points is displayed above the number line and the drawing tools below the number line are not active.



iPad only: The inactive drawing tools are not displayed for these questions.

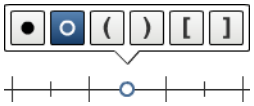
To answer a NumberLine question:

Plot your answer on the number line or indicate that no solution exists.

Note:

- Depending on which type of NumberLine question you are answering, some actions will not be available.
- Two objects or points cannot be placed at exactly the same position on the number line.

To do this	Do this
Graph a point — a closed circle, an open circle, a parenthesis, or a bracket	1. Click  if it is not already selected. 2. Drag one of the point symbols —  — to the correct location on the number line. **Note:** A menu of point symbols is displayed above the point. If needed, you can click a different symbol to be displayed. iPad only: 1. Tap the point symbol you want to graph —  2. Tap the correct location for the point symbol on the number line.

To do this	Do this
Draw a line, line segment, or ray	1. If needed, graph one or more endpoints. 2. Click  . 3. Click on the number line where you want to draw the line, segment, or ray.
Place a labeled point on the number line	1. Click  if it is not already selected. 2. From the holding area above the number line, drag the point to the correct location on the number line.
Indicate that no solution exists	Click  . Any objects currently on the number line are removed.
Change a point	1. Click  if it is not already selected. 2. Click the point you want to change. A menu of point symbols is displayed above the selected point.  3. Click the symbol you want to use.
Move a point	1. Click  if it is not already selected. 2. Drag the point you want to move to a new location.
Erase an object	1. Click  . 2. Click the object you want to remove. Any lines, segments, or rays touching the object are also erased.
Erase everything from the number line	1. Click  . A message is displayed to confirm that you want to remove everything from the number line. 2. Click **OK**.
Undo the last action	Click  .
View help for the NumberLine tool	Click  .

NumberLine on an iPad

You can answer NumberLine™ questions in Safari on iPad with iOS 5 or later.

This tool is tested and supported only for Safari on iPad with iOS 5 or later.

Note:

- Other browsers and iOS versions might work, but are not supported.
- Performance might be slower on iPad 1 than on iPad 2.

It makes no difference to your grade whether you complete your work on an iPad or on another supported platform.

Tip: Placing objects accurately on the number line might be easier if you pinch to zoom in.

See Also:
Problems Working on iPad on page 202

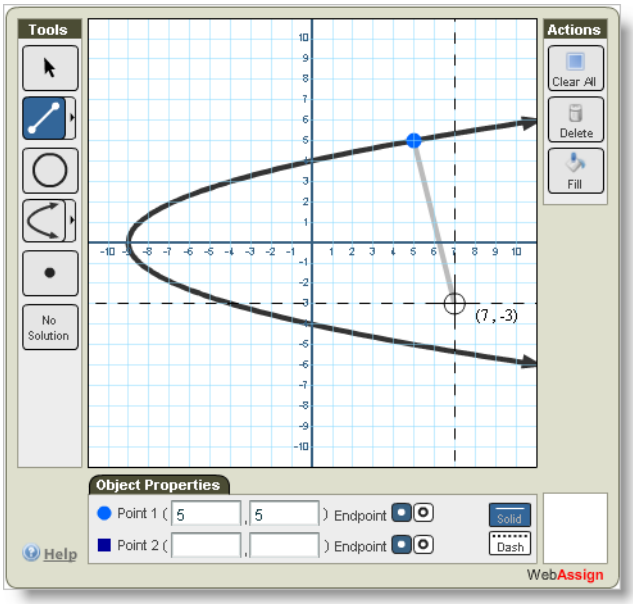
Answering Graphing Questions

The WebAssign® graphing tool lets you graph one or more mathematical elements directly on a set of coordinate axes. Your graph is scored automatically by WebAssign® when you submit the assignment for grading.

The WebAssign® graphing tool currently supports points, rays, segments, lines, circles, and parabolas. Inequalities can also be indicated by filling one or more areas.

Note: Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.

When you work on a graphing question, the WebAssign® graphing tool displays below the question.



The middle of graphing tool is the drawing area. It contains labeled coordinate axes, which may have different axis scales and extents depending on the nature of the question you are working on. When you move your mouse over the drawing area, you'll notice that the cursor location is shown inside the Graph toolbar on the right.

On the left side of graphing tool is the list of Tools that lets you create graph objects, select objects to edit, and create fills.

The bottom of the graphing tool holds the Object Properties toolbar, which becomes active when you have a graph element selected. This toolbar shows you all the details about the selected graph object, and also lets you edit properties of that object or delete it from your graph.

Depending on the question, the graphing tool might display both *x* and *y* axes, or only the *x* axis. If only the *x* axis is displayed, you can specify only *x* coordinates; the *y* coordinate will always be 0. The maximum and minimum allowed values on the graph in the graphing tool are also dependent on the question.

To answer a graphing question:

1. Use the WebAssign® graphing tool to graph the objects that represent your answer.

Task	Tool	Steps
Graph a point		1. Click the Point tool. 2. Click a location in the graph.

Task	Tool	Steps
Graph a line		1. Expand the line tools, and click the Line tool. 2. Click the location of the first point on the line. 3. Click the location of a second point on the line.
Graph a ray		1. Expand the line tools, and click the Ray tool. 2. Click the location of the endpoint of the ray. 3. Click the location of a second point on the ray.
Graph a line segment		1. Expand the line tools, and click the Line Segment tool. 2. Click the location of one endpoint of the line segment. 3. Click the location of the second endpoint of the line segment.
Graph a circle		1. Click the Circle tool. 2. Click the of the center of the circle. 3. Click the location of a point on the circle.
Graph a parabola with horizontal symmetry		1. Expand the parabola tools, and click the parabola tool with horizontal symmetry. 2. Click the location of the vertex of the parabola. 3. Click the location of another point on the parabola.
Graph a parabola with vertical symmetry		1. Expand the parabola tools, and click the parabola tool with vertical symmetry. 2. Click the location of the vertex of the parabola. 3. Click the location of another point on the parabola.
Indicate that no solution exists		1. Click the No Solution tool. 2. If any objects are currently on the graph, a confirmation dialog is displayed. Click **Yes** to confirm that you want to clear the graph.
Select an object to change		1. Click the Selection tool. 2. Click the object in the graph that you want to change.

Task	Tool	Steps
Change an object's coordinates		1. Select an object in the graph. 2. In the Object Properties below the graph, enter values for the object's center, vertex, or points. 3. Enter the coordinates precisely. You can type decimal values, or you can type fractional values using the forward slash character, as in 2/3. 4. The graphing tool does not accept values that are outside of the displayed coordinate grid.
Move an object with the mouse		1. Select an object in the graph. 2. Click and drag the object to a new location.
Move an object with the keyboard		1. Select an object in the graph. 2. Press the cursor keys to move the object by single units up, down, left, or right.
Reshape an object with the mouse		1. Select an object in the graph. 2. Click and drag the center, vertex, or specified point to a new location.
Fill a region of the graph to specify inequality		1. Graph one or more boundaries for the inequality. 2. Click the Fill tool. 3. Click a location in the region that should be filled.
Clear a filled region of the graph		1. Click the Fill tool. 2. Click a location in the filled region that should be cleared.
Set an open endpoint for a ray or line segment		1. Select a ray or line segment in the graph. 2. Click the Open Endpoint tool for the endpoint that should be open.
Set a closed endpoint for a ray or line segment		1. Select a ray or line segment in the graph. 2. Click the Closed Endpoint tool for the endpoint that should be closed.
Set a dashed line style to specify inequality		1. Select an object in the graph. 2. Click the Dash tool to graph the object as a dashed line or curve.

Task	Tool	Steps
Set a solid line style		1. Select an object in the graph. 2. Click the Solid tool to graph the object as a solid line or curve.
Delete an object		1. Select an object in the graph. 2. Click Delete or press Delete on the keyboard.
Delete all objects		1. Click Clear All. 2. If any objects are currently on the graph, a confirmation dialog is displayed. Click **Yes** to confirm that you want to clear the graph.
View help for the graphing tool		1. Click **Help** in the lower left corner of the graphing tool.

Tip:

- When you are setting or moving a point on the graph, dashed coordinate lines and coordinate values are displayed to help you.
- You can specify coordinates for objects when you are creating them by typing values in the Object Properties section of the graphing tool.
- You can click the endpoint of an unselected ray or line segment to toggle it between closed and open.
- You can print a graph by using your browser's print function.

2. Click either **Submit New Answers to Question** or **Submit Whole Question**, depending on the submission options for the assignment. A correct or incorrect icon displays in the lower right corner of the graphing tool.

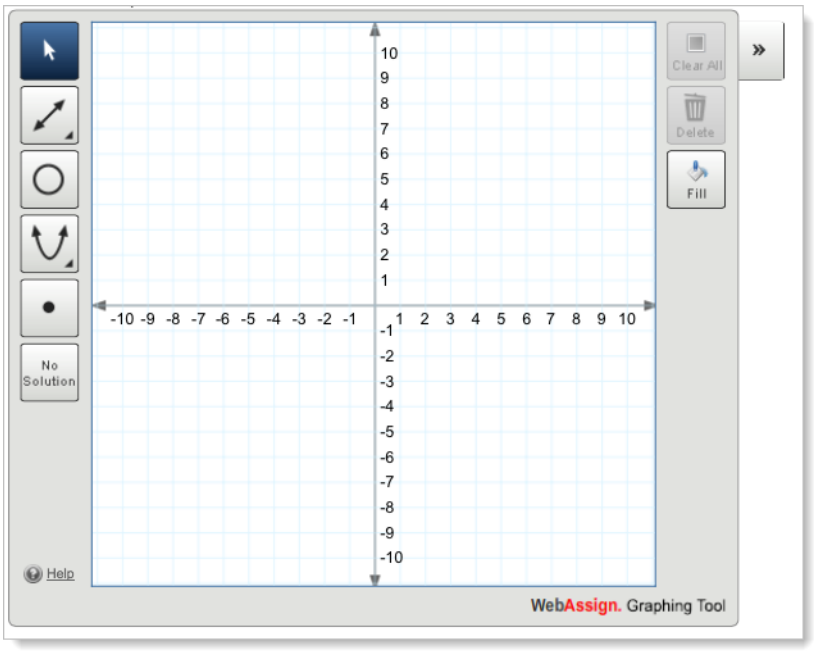
See Also:

Submit Answers on page 57
Graphing Tool Video Tutorials in the online help

Use Graphing Tool on an iPad

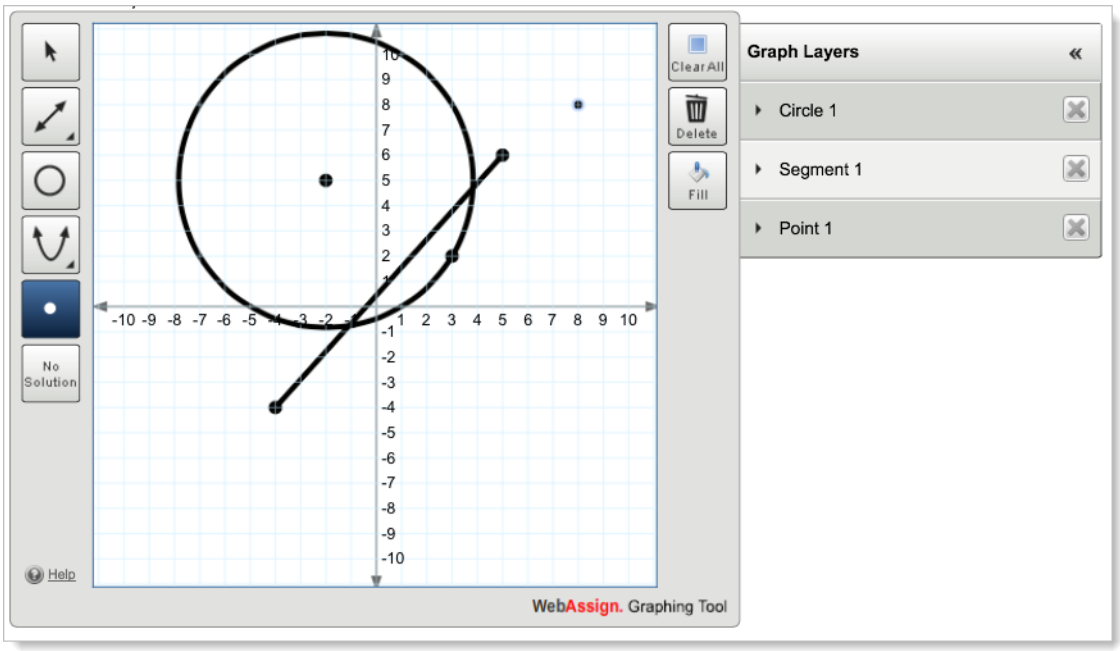
The WebAssign® graphing tool lets you graph one or more mathematical elements directly on a set of coordinate axes. Your graph is scored automatically by

WebAssign® when you submit the assignment for grading. You can answer graphing tool questions in Safari on iPad with iOS 5 or later.



To use the iPad version of the graphing tool, you select objects by tapping object buttons and plot objects on the graph by tapping points in the graphing area.

You can refine and change the properties of any object you plot by using Graph Layers. To view Graph Layers, click the arrows in the upper-right corner of the graphing tool or select an object on the graph.



Basic Graphing Tool Tasks

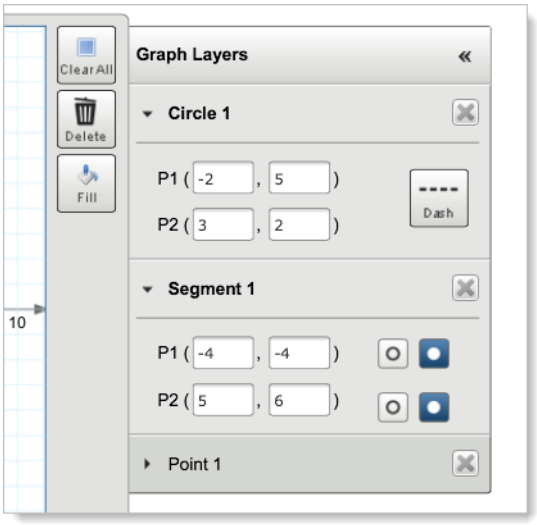
The following table describes how to perform basic graphing tool tasks using the iPad.

Task	Steps
Choose an object to graph	Tap the object. If the object you want to graph is part of a drawer: 1. Tap the object button shown on the tools menu to expand the drawer. 2. Tap the object you want to graph. **Tip:** An object's button is highlighted in blue when it is selected.
Graph a point	1. Tap the **Point** button. 2. Tap a location in the graph.
Graph a line, ray, or line segment	1. Expand the line tools, and tap the object you want to graph. 2. Tap the location of the first point. 3. Tap the location of a second point.
Graph a circle	1. Tap the **Circle** button. 2. Tap the location of the center of the circle. 3. Tap the location of a point on the circle.
Graph a parabola	1. Expand the parabola tools, and tap the object you want to graph. 2. Tap the location of the vertex of the parabola. 3. Tap the location of another point on the parabola.
Indicate that no solution exists	1. Tap the **No Solution** button. 2. If any objects are currently on the graph, a confirmation dialog is displayed. Click **OK** to confirm that you want to clear the graph.
Select an object to change	1. Tap the **Selection** button.  2. Tap the object in the graph that you want to select. When an object is selected, the color of the object changes and **Graph Layers** expands to show the object's current properties.

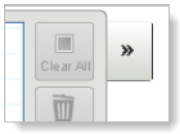
Task	Steps
Move an object	1. If necessary, tap the **Selection** button.  2. Touch an object in the graph to select it. 3. Move your finger to drag the object to a new location. **Tip:** You can also modify an object by changing its points using **Graph Layers**.
Reshape an object	1. If necessary, tap the **Selection** button.  2. Tap an object in the graph to select it. 3. Touch the point you want to move. 4. Move your finger to drag the center, vertex, or specified point to a new location.
Fill a region of the graph to specify inequality	**Note:** Making changes to the graph after you add fills will remove them, so make sure to fill regions last. 1. Graph one or more boundaries for the inequality. 2. Tap the **Fill** button. 3. Tap a location in the region that should be filled.
Clear a filled region of the graph	1. Tap the **Fill** button. 2. Tap a location in the filled region that should be cleared.
Delete an object	1. Select an object in the graph. 2. Tap the **Delete** button.
Delete all objects	1. Tap the **Clear All** button. If any objects are currently on the graph, a confirmation dialog is displayed. 2. Tap **Yes** to confirm that you want to clear the graph.
View the answer key	If your instructor has enabled it, you might be able to see the answer key for a question. This is typically allowed after you have used all of your submissions or after the due date has passed. Tap the **Show Key** button.
View help for the graphing tool	Tap **Help** in the lower left corner of the graphing tool.

Graph Layers

Graph Layers allows you to modify objects plotted on the graph. You can use Graph Layers to change an object's coordinates, reshape objects, and set endpoints or dashed lines.



The following table describes how to perform graphing tool tasks using Graph Layers.

Task	Steps
Open Graph Layers	Tap the arrows to the upper right of the graph.  **Tip:** You can also open **Graph Layers** by selecting an object.
Close Graph Layers	Tap the **Graph Layers** header.
View an object's properties	Tap an object name in **Graph Layers**. **Note:** This will select the object in the graph.
Change an object's coordinates	1. Select an object in the graph. 2. In **Graph Layers**, change the values for the object's points. **Note:** The graphing tool does not accept values that are outside of the displayed coordinate grid.

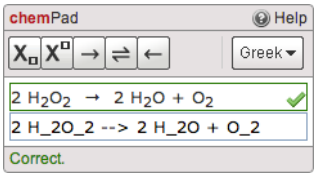
Task	Steps
Move or reshape an object	1. Select an object in the graph. 2. In **Graph Layers**, change the values for the object's points.
Set an open endpoint for a ray or line segment	1. Select a ray or line segment in the graph. 2. In **Graph Layers**, tap the **Open Endpoint** button for the endpoint that should be open.
Set a closed endpoint for a ray or line segment	1. Select a ray or line segment in the graph. 2. In **Graph Layers**, tap the **Closed Endpoint** button for the endpoint that should be closed.
Set a dashed line style to specify inequality	1. Select a solid object in the graph. 2. In **Graph Layers**, tap the **Dash** button to graph the object as a dashed line or curve.
Set a solid line style	1. Select a dashed object in the graph. 2. In **Graph Layers**, tap the **Dash** button to graph the object as a solid line or curve.

See Also:
Problems Working on iPad on page 202

Answer chemPad Questions

Use WebAssign®'s chemPad to enter responses that are automatically displayed in correct chemical notation.

The chemPad tool includes a row of buttons at the top, a formatted display area in the middle, and a text entry box at the bottom.



To answer a chemPad question:

Type your answer or click buttons to formulate your response in the text entry box. chemPad automatically updates the display area to show the formatted chemical notation.

The formatted chemical notation in the display area helps you to know that what you are typing represents the chemical formula or equation you intend to submit for your response.

Use the chemPad buttons as a way to enter some kinds of notation.

You can pause the pointer over any button to see its description.

To enter this	Click this	Type this
Subscript		`_ (underscore)`
Superscript		`^ (caret)`
Forward Reaction Arrow		`-->`
Equilibrium Reaction		`<=>`
Reverse Reaction Arrow		`<--`
Lowercase Greek letters such as α, β, δ		The lowercase name of the letter, such as `alpha, beta, delta`
Uppercase Greek letters such as Δ, Σ, Ω		The capitalized name of the letter, such as `Delta, Sigma, Omega`
Stacked Fraction		`/`
Dot (·)		`. (period) or *`

Note:

- chemPad is designed to minimize your need to add formatting to your answer. For most questions, you do not need to indicate to chemPad where to end a subscript or superscript, or to specifically delimit special symbols like arrows.
- Type spaces where they belong in your notation, such as between quantum levels in an electron configuration and between chemical formulas and arrows or plus signs in reaction equations.
- Typing an alphabetic character or a space ends a subscript or superscript. For example, type `H_2O` to display H_2O, or `Na^+ + Cl^-` to display $Na^+ + Cl^-$.
- To type advanced notation such as general formulas and equilibrium equations, enclose the content of a superscript or subscript in braces {}. For example, type `K_{c} = [CO_2]` to display $K_c = [CO_2]$.
- The same rules are used to display the formatted notation and to score your response, so ensure that your formatted notation represents the answer you want to submit.

See Also:

Submit Answers on page 57

Examples of Common chemPad Notation

The following examples illustrate entry of some common notation.

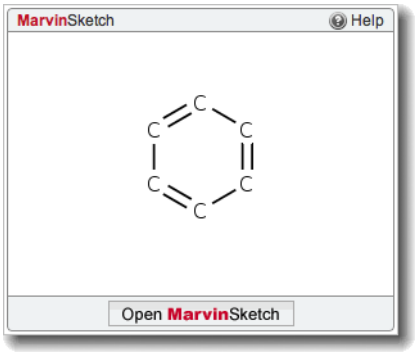
Subject	Scenario	Type this	To display this
Molecules	Using subscripts to format molecular ratios in chemical formulas	`H_20`	H_2O
Simple Ions	Entering charges	`Ca^2+`	Ca^{2+}
Molecular or Compound Ions	Entering charges and molecular ratios	`SO_4^2-`	SO_4^{2-}
Complex Ions	Grouping with subscripts and superscripts	`[Co(SCN)_2(H_20)_4]^+`	$[Co(SCN)_2(H_2O)_4]^+$
Isotope	Entering an isotopic mass number in the so-called M/A or M/Z format	`^233_91Pa`	$^{233}_{91}Pa$
Chemical Reactions	Entering a combination of correctly formatted chemical formulas and symbols	`2 H_20_2 --> 2 H_20 + 0_2`	$2\ H_2O_2 \rightarrow 2\ H_2O + O_2$
Chemical Reactions with States of Matter	Entering a combination of correctly formatted chemical formulas with their respective states of matter and symbols	`CH_4(g) + 4 S(s) -->` `CS_2(1) + 2 H_2S(g)`	$CH_4(g) + 4\ S(s) \rightarrow$ $CS_2(l) + 2\ H_2S(g)$
Electron Configuration	Using complete notation	`1s^2 2s^2 2p^5`	$1s^2\ 2s^2\ 2p^5$
Electron Configuration	Using noble gas notation	`[He] 2s^2 2p^5`	$[He]\ 2s^2\ 2p^5$
Equilibrium Expressions	Including a stacked fraction and multiplication dots	`K_{c} = [COCl] * [Cl] / [CO] * [Cl_2]`	$K_c = \frac{[COCl] \cdot [Cl]}{[CO] \cdot [Cl_2]}$
Electrochemical Cell Notation	Enter cell line notation.	`Mg(s) | Mg^2+(aq) || Zn^2+(aq) | Zn(s)`	$Mg(s) \mid Mg^{2+}(aq) \parallel Zn^{2+}(aq) \mid Zn(s)$

Answer MarvinSketch Questions

Some questions require you to use MarvinSketch to draw chemical structures that are automatically scored in WebAssign®.

Note: Java™, version 6 (build 1.6.0) or later is required. See Required Browser Plug-Ins on page xvi.

In your assignments, MarvinSketch questions display an answer box with the MarvinSketch label. This box displays either your answer or basic instructions for answering a MarvinSketch question. At the top of the box is a help link. At the bottom of the box is a button that opens the MarvinSketch editor.



Some MarvinSketch questions require you to draw a structure or reaction from scratch. Others start with a partially drawn structure or reaction that you must complete.

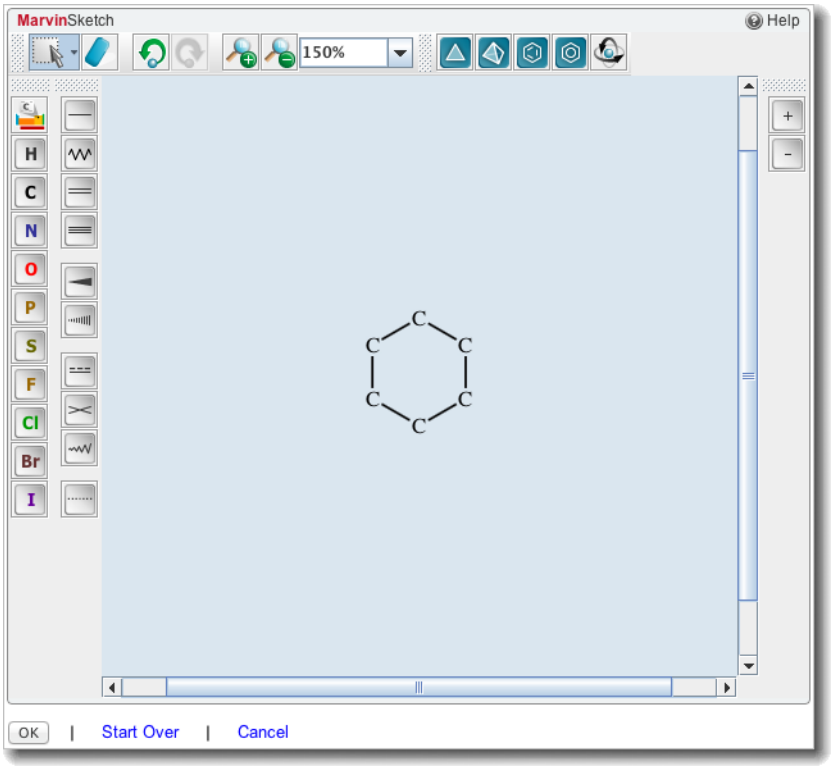
To answer a MarvinSketch question:

1. Click **Open MarvinSketch**, or click anywhere in the MarvinSketch frame.

   a) If prompted, allow the Java™ applet and the medit application to run.

   The MarvinSketch editor opens in a new window.

   Important: Displaying MarvinSketch might take a minute or so. You might see a Java™ logo while MarvinSketch is being loaded. Do not close this window before MarvinSketch has displayed or your browser might shut down unexpectedly, causing you to lose any unsaved work.



2. Use the tools to draw the chemical structure or reaction.
3. When you are finished, click **OK**.

   The window closes and your answer is displayed in the assignment.
4. Optional: If needed, click either **Cancel** or **Start Over** instead of **OK**.
   - Click **Cancel** to close the MarvinSketch window without updating your answer.
   - Click **Start Over** if the question started with an initial drawing to discard all of your work and display the initial drawing.

See Also:
Submit Answers on page 57

Draw Chemical Structures in MarvinSketch

The following table describes how to draw and edit chemical structures and reactions in MarvinSketch.

Some instructions are different if the question uses MarvinSketch version 5.3.8. These differences are noted.

Task	Steps
Add an atom of one of the following elements: H, C, N, O, P, S, F, Cl, Br, I	1. Click the element symbol. 2. Click in the drawing area.

Task	Steps
Add any atom	1. Click  . 2. Click the element symbol in the periodic table. 3. Close or move the Periodic System window. 4. Click in the drawing area.
Add a special atom type or node, such as Q, M, X, and LP	1. Click  . 2. Click the **Advanced** tab. 3. Click the symbol on the Advanced page. 4. Close or move the Periodic System window. 5. Click in the drawing area.
Add an atom and its bond to an existing atom	1. Click the element symbol for the new atom. 2. Drag from the existing atom until the symbol for the new atom is displayed under the pointer.
Add two bonded carbon atoms	1. Click  . **Version 5.3.8:** Expand the bond tool  and select the type of bond you need. 2. Click in the drawing area.
Add a chain of carbon atoms	1. Click  . 2. Drag in the drawing area until the number of carbon atoms you want to insert is displayed under the pointer.
Replace an atom	1. Click the element symbol for the new atom. 2. Click the atom to be replaced.
Add a single bond between existing atoms	1. Click  . **Version 5.3.8:** Expand the bond tool  and select the type of bond you need. 2. Drag from one atom to another. **Note:** If the bond does not end at an existing atom, a carbon atom is automatically added at the end of the bond.

Task	Steps
Add a double bond between existing atoms	1. Click  . **Version 5.3.8:** Expand the bond tool  and select the type of bond you need. 2. Drag from one atom to another.
Change a bond type	1. Click the button for the bond type you want to use. **Version 5.3.8:** Expand the bond tool  and select the type of bond you need. 2. Click the bond to be changed.
Draw a reaction arrow (adds **+** signs among reactants and products; treats structures and names above arrow as agents)	1. Click  . 2. Drag the pointer in the drawing area in the direction the arrow should point.
Add agent names to a reaction arrow	1. Click  . 2. Click the **Advanced** tab. 3. Click **Pseudo** on the Advanced page. 4. Type the agents in **Value** (subscripts are automatically formatted for values like H2O). 5. Close or move the Periodic System window. 6. Click above the reaction arrow.
Add a single electron (monovalent radical) to an atom	1. Click the radical tool  . 2. Click an atom.
Add lone pairs to an atom	1. Expand the lone pairs tool  and select the number of lone pairs to add. 2. Click an atom.
Draw a curved harpoon to show the movement of electrons	1. Expand the electron flow tool  and select either **1 Electron** or **2 Electrons**. 2. Click the source atom for the electron. 3. Click the target atom for the electron, or to create a bond, click the midpoint between atoms.

Task	Steps
Set the charge for an atom	1. Right-click the atom. 2. Select **Charge** > ***value***, where *value* is the charge you want to use.
Decrease an atom's charge	1. Click  . 2. Click an atom.
Increase an atom's charge	1. Click  . 2. Click an atom.
Select a single item	1. Expand the selection tool  and select **Rectangle Selection**. 2. Click the item you want to select.
Select an entire structure	1. Expand the selection tool  and select **Structure Selection**. 2. Click any part of a structure.
Select items in a rectangular region	1. Expand the selection tool  and select **Rectangle Selection**. 2. Drag the pointer diagonally across the drawing area to select items.
Select items in an arbitrary region	1. Expand the selection tool  and select **Lasso Selection**. 2. Drag the pointer to draw a boundary around the items you want to select.
Select multiple items	1. Expand the selection tool  and select **Rectangle Selection**. 2. Click the first item you want to select. 3. Hold the SHIFT key and click any additional items you want to select.
Copy selected items to the clipboard	Click  .  **Note:** You can copy and paste only within the current MarvinSketch window.

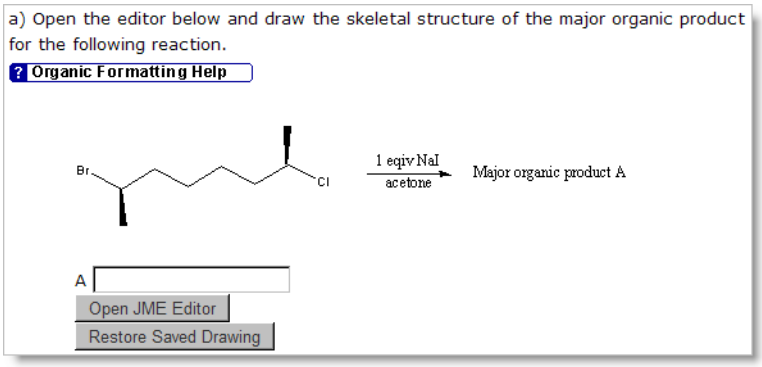
Task	Steps
Paste items from the clipboard	1. Click  . 2. Click in the drawing area where you want to paste the clipboard items. **Note:** You can copy and paste only within the current MarvinSketch window.
Delete selected items	Click  or press DELETE.
Delete items by clicking	1. Click  . 2. Click the items you want to delete.
Move an atom	1. Drag the atom to a new location.
Move selected items	1. Move the pointer toward the center of the selection until a square is displayed. 2. Drag the selection to a new location.
Undo your last change	Click  or press CTRL+Z.
Set a mapping number for an atom	1. Right-click the atom you want to change. 2. Select **Map** > **M#** where # is the mapping number to set.
Transform selected structure or entire drawing to aromatic representation	Click  .
Transform selected structure or entire drawing to non-aromatic representation	Click  .
Flip a structure horizontally	1. Select the structure to flip. 2. Right-click the structure and click **Transform** > **Flip** > **Flip Horizontally**. **Version 5.3.8:** Not available.
Flip a structure vertically	1. Select the structure to flip. 2. Right-click the structure and click **Transform** > **Flip** > **Flip Vertically**. **Version 5.3.8:** Not available.

Task	Steps
Rotate a structure to align a bond horizontally	1. Right-click a bond in the structure. 2. Select **Align** > **Horizontally**.
Rotate a structure to align a bond vertically	1. Right-click a bond in the structure. 2. Select **Align** > **Vertically**.
Rotate selected items in 2 dimensions	1. Move the pointer toward the center of the selection until a rotation cue is displayed. 2. Drag the selection to rotate it around its center.
Rotate the drawing in 3 dimensions	1. Click . 2. Drag the pointer to rotate the drawing.
Rotate selected structure in 3 dimensions	1. Move the pointer toward the center of the selection until a square is displayed. 2. Right-click in the square and select **Transformation** > **Rotate in 3D** > **Free 3D Rotation**. 3. Drag the pointer to rotate the structure.
Clean drawing in 2 dimensions	Click . This standardizes bond lengths and angles to improve appearance. The drawing is converted to a 2-dimensional drawing if needed.
Clean drawing in 3 dimensions	Click . This standardizes bond lengths and angles to improve appearance. The drawing is converted to a 3-dimensional drawing if needed.
Zoom in	Click .
Zoom out	Click .
Zoom to a specific magnification	Select a zoom level from the zoom level list 200% or type a new zoom level in the box.

Answer JME Questions

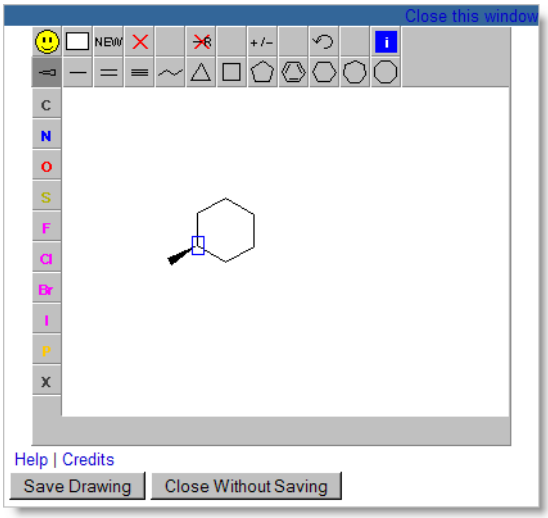
Some questions require you to use the Java Molecular Editor (JME) to draw chemical structures.

Note: Java is required to answer JME questions. See Required Browser Plug-Ins on page xvi.



To answer a JME question:

1. Click **Open JME Editor**.
   The JME Editor opens in a new window.



2. Use the toolbars to draw a chemical structure.
3. When you are done, click **Save Drawing**.
   The JME Editor closes and your drawing is entered in the answer box as a SMILES string.
4. Click **Submit**.

See Also:
Submit Answers on page 57

Draw Chemical Structures in JME Molecular Editor

The following table describes how to draw and edit chemical structures in the JME Molecular Editor.

Note: Whenever you add an atom in JME, the implied hydrogen atoms are listed based on the valence. For example, adding N displays NH_3. The hydrogen atoms are implied, but are not explicitly drawn. This is the way most questions expect you to draw structures.

If a question specifically asks you to show hydrogen atoms, then add the hydrogen atoms explicitly.

Task	Steps
Add a new structure to the drawing	By default, the JME tools add or change items in existing structures. To create a new structure in the drawing: 1. Click NEW. 2. Add an atom, bond, ring, or carbon chain anywhere in the drawing area.
Add an atom of one of the following elements — C, N, O, S, F, Cl, Br, I, P — as a new structure	1. Click NEW. 2. Click the element's symbol. 3. Click in the drawing area.
Add any atom as a new structure	1. Click NEW. 2. Click X. 3. In the popup window that is displayed, type the symbol of the atom you want to add. 4. Click in the drawing area.
Add an atom and its bond to an existing structure	1. Click a single bond —, double bond =, or triple bond ≡. 2. Click the atom in the structure where the bond should be added. 3. Click the symbol of the atom that you want to add to the end of the bond, or click X and type the symbol of the atom you want to add. 4. Click the end of the bond where the atom should be added. **Note:** When you add a bond to a structure in this way, a Carbon atom is always added to the end of the bond. When you "add" a different atom to the end of the bond, you are really replacing the Carbon.

Task	Steps
Add a bond between existing atoms	1. Click a single bond, double bond, or triple bond. 2. Drag from one atom to another.
Change a bond type	1. Click a single bond, double bond, or triple bond. 2. Click the bond to be changed.
Replace an atom	1. Click the symbol of the new atom that you want to use, or click X and type the symbol of the atom you want to use. 2. Click the atom to be replaced.
Set the charge for an atom	1. Click +/-. 2. Click the atom to be changed. If needed, click the atom multiple times to see the possible charges suggested by the JME Editor. **Note:** To set a different charge than those suggested, use the X tool and type a SMILES string without brackets, for example, Si, Fe++, or NH3+.
Add a chain of carbon atoms	1. Click. 2. Starting from the atom to which the carbon chain attaches, drag in the drawing area until the number of carbon atoms you want to insert is displayed.
Add a carbon ring	1. Click the button that displays the kind of ring you want to add.  2. Click the atom to which the ring should be attached.
Add wedge bonds	1. Click. 2. Click the atom in the structure where the bond should be added. 3. If needed, click the wedge bond in the structure to change its type.
Delete a bond or atom	1. Click. 2. Click the item you want to delete.

Task	Steps
Delete a structure	1. Move the pointer over the structure to be deleted until a portion of the structure displays a blue selection outline. 2. Click  . The structure is deleted.
Delete a functional group	1. Click  . 2. Click the bond connecting the group with the main skeleton.
Move a structure	1. Move the pointer over the structure to be moved until a portion of the structure displays a blue selection outline. 2. Move the pointer over an empty part of the drawing area. 3. Drag the pointer to move the structure.
Rotate a structure	1. Move the pointer over the structure to be moved until a portion of the structure displays a blue selection outline. 2. Move the pointer over an empty part of the drawing area. 3. Hold down the SHIFT key and drag the pointer to rotate the structure.
Undo your last change	Click  . You can undo only one change.
View the SMILES string for your drawing	Click  . The SMILES string is displayed in a popup window.

8

Scores and Grades

This chapter contains the following topics:

You can view your scores and grades for previous assignments, as well as the scores you have for assignments you are currently working on.

See Also:

View Your Previous Answers for a Question on page 81
Question Feedback on page 59

View Scores and Grades

On your **My Assignments** page, you see all of your scores for your assignments within WebAssign®. You might also see scores for assignments that you took outside of WebAssign®.

Note: You cannot view scores or grades for a course in WebAssign® after the last available date set by your instructor. Often, this date is shortly after the last day of classes.

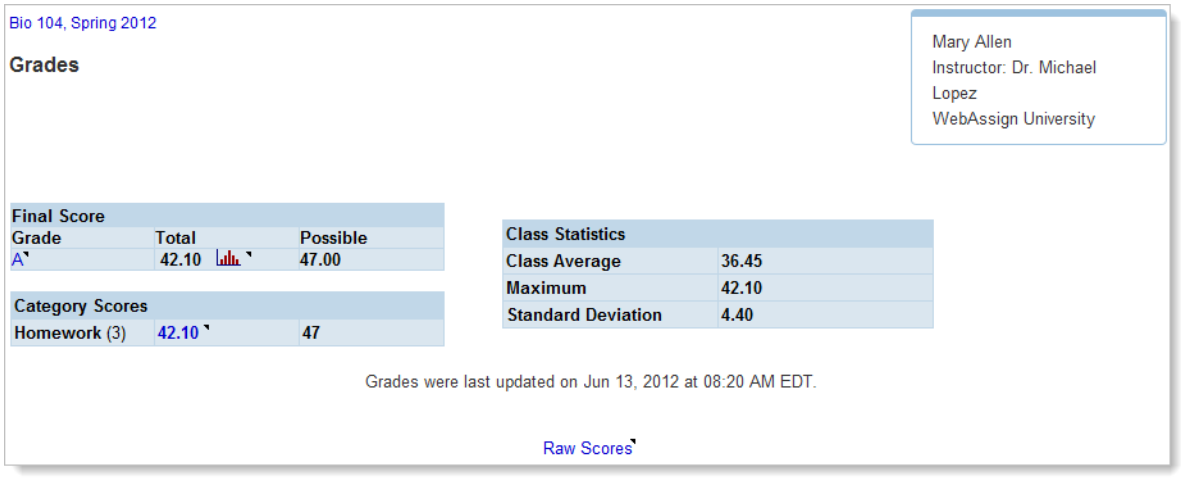
In addition, your instructor can turn off display of scores and grades in WebAssign® or choose to display only certain information.

On the **Grades** page, you see all of your raw scores and grades that your instructor posts.

The page might also include the class average, minimum and maximum scores, the standard deviation, and a histogram of scores for each category of assignment and for individual assignments. It might have your average for each category of assignments as well as the scores for individual assignments. Your instructor will let you know which scores and grades will be posted for your course.

To see your scores and grades:

1. From the menu bar, click **Grades**.
2. If your instructor enabled all of the options, your **Grades** page might look like this:



The Overall Grade gives information about your grade in the class as calculated from the various categories of assignments, such as Homework, Test, In Class, Quiz, Lab, and Exam. Your instructor might have different categories. You can click the Histogram icon next to the Overall Grade to view a histogram of the grades in the class.

The Category Grades show the contribution to your overall grade from each of the categories. Class Statistics shows you how the rest of the class is doing.

3. To see how a number was calculated, click a grade that is a link.

4. To see a summary of all of your raw scores and the class statistics for each assignment, if your instructor has posted these, click **Raw Scores**.

See Also:
View Assignment Scoring Details on page 165

View Assignment Scoring Details

After you submit answers for an assignment, you can see your earned and total points for the assignment, for each question, and for each question part.

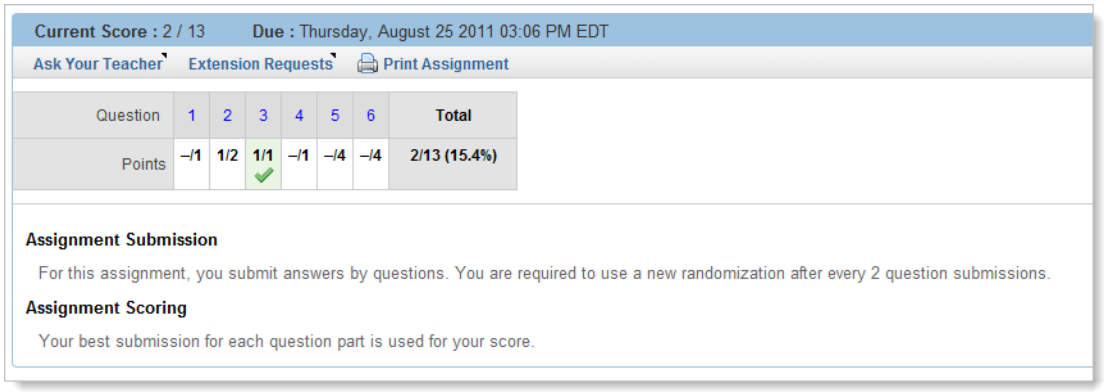
Note: Your instructor might choose not to display these scores.

To view scoring details for an assignment:

1. If the assignment for which you want to see scoring details is not already open, then open it.
2. To see how your assignment is scored, read the **Assignment Scoring** rule at the top of the assignment.

   There are four ways your assignment can be scored:

   - Your last submission is used for your score
   - Your best submission for each question part is used for your score
   - Your best submission for each entire question is used for your score
   - Your best assignment submission is used for your score



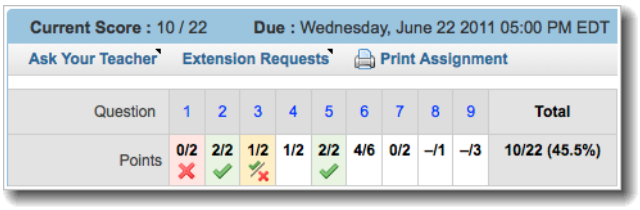
3. View the assignment score, a question score, or a question part score in the assignment.
   - The assignment score is displayed at the top of the assignment.
   - The question score is displayed at the top of each question.
   - To see question part scores, click the plus sign by the question score.

See Also:
View Scores and Grades on page 164
Open an Assignment on page 38
View Submission Information on page 55

Assignment Score

The **Current Score** at the top of the assignment displays the number of points you have earned followed by the number of points possible for the assignment.

Note: Your instructor might choose not to display the assignment score in the assignment.



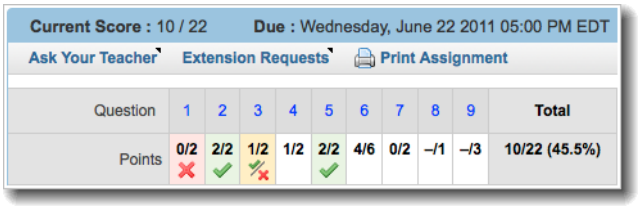
In this example, a student has earned 10 out of 22 possible points for the assignment.

Your assignment score is also displayed with the percentage of correct answers in the **Total** column after all of the question scores.

Question Score

The points table at the top of the assignment displays the number of points earned followed by the number of points possible for each question on the assignment.

Note: Your instructor might choose not to display question scores in the assignment.



In this example, a student has earned 0 out of 2 possible points for question 1, 2 out of 2 possible points for question 2, 1 out of 2 possible points for question 3, and so on.

When you cannot earn any more points, the background of the question score is shaded and an icon is displayed. If no icon is displayed, you can still earn more points for the question.

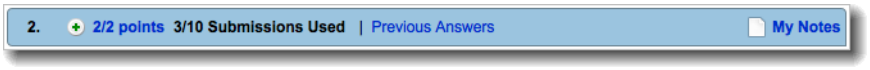
Display	Meaning
–/1	The question has not been submitted. You can submit an answer.
0/2	The question was submitted, but no points were earned. You can submit a different answer.

Display	Meaning
1/2	The question was submitted and some points were earned. You can submit a different answer.
2/2	The question was submitted and all points were earned. You do not need to submit a different answer.
1/2	The question was submitted and some points were earned. You cannot submit it again; either the due date has passed or you have used all of your submissions.
0/2	The question was submitted, but no points were earned. You cannot submit it again; either the due date has passed or you have used all of your submissions.
–/3	The question has not been submitted. You cannot submit an answer because the due date has passed.
1/0	The question was submitted and some points were earned. The earned points count as extra credit toward your assignment score. You cannot submit it again; either the due date has passed or you have used all of your submissions.

Note: Some icons have different meanings when they are shown as marks beside your answer.

You can click the question number above the score to navigate to the question.

Each question's score is also displayed at the top of the question.



See Also:
Marks on page 60

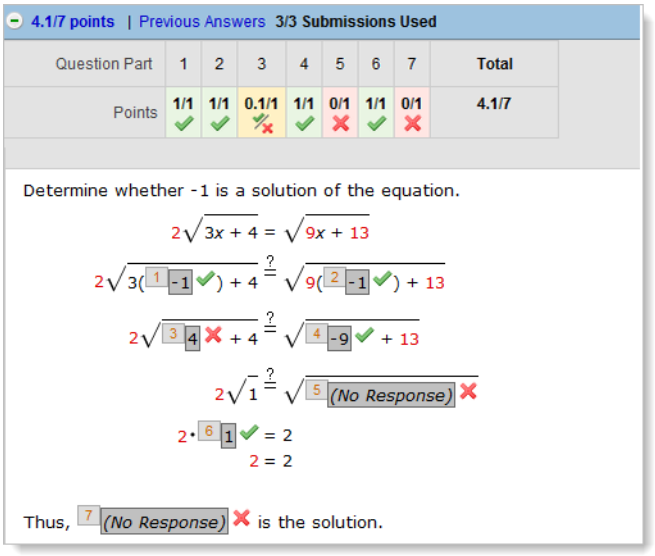
Question Part Score

To see scores for each question part, click the plus sign in the question heading. The points table at the top of the question displays the number of points earned followed by the number of points possible for each question part.

Note:

A **question part** is the smallest unit of a question for which you can provide an answer. Some questions have only one question part. Some questions have dozens of question parts.

Your instructor might choose not to display question part scores in the assignment.



When you expand the question heading, each question part displays a numbered label corresponding to a question part number in the table.

In this example, a student has earned 1 out of 1 point for question part 1, 1 out of 1 point for question part 2, .1 out of 1 point for question part 3, and so on.

When you cannot earn any more points, the background of the question part score is shaded and an icon is displayed. If no icon is displayed, you can still earn more points for the question part.

Display	Meaning
–/1	The question part has not been submitted. You can submit an answer.
0/2	The question part was submitted, but no points were earned. You can submit a different answer.
1/2	The question part was submitted and some points were earned, for example, if partial credit was awarded for specifying compatible units. You can submit a different answer.
2/2	The question part was submitted and all points were earned. You do not need to submit a different answer.
1/2	The question part was submitted and some points were earned, for example, if partial credit was awarded for specifying compatible units. You cannot submit it again; either the due date has passed or you have used all of your submissions.
0/2	The question part was submitted, but no points were earned. You cannot submit it again; either the due date has passed or you have used all of your submissions.

Display	Meaning
–/3	The question part has not been submitted. You cannot submit an answer because the due date has passed.
1/0	The question part was submitted and some points were earned. The earned points count as extra credit toward your question score. You cannot submit it again; either the due date has passed or you have used all of your submissions.

Note: Some icons have different meanings when they are shown as marks beside your answer.

See Also:
Marks on page 60

Partial Credit and Extra Credit

You might sometimes receive partial credit or extra credit for an answer.

Some common reasons include:

- Specifying an incorrect numerical answer with a dimensionally correct unit
- Specifying a numerically correct answer with the wrong number of significant figures or decimal places
- Bonus or penalty points set by your instructor for the question, for example, partial credit for attempting a difficult question, or bonus points for answering early

Manually Graded Questions

Some kinds of questions are graded by your instructor or a teaching assistant. These include pencilPad questions, short-answer questions, essay questions, file-upload questions, and questions for which you must show your work.

For these questions, you will usually receive all the possible points when you first submit your answer, but your instructor or a teaching assistant will grade your answers and determine the actual score after the assignment due date. Your instructor might also provide feedback that you can see below your answer.

9

Instructor Assistance

This chapter contains the following topics:

In addition to the usual help provided by your school, such as tutoring by teaching assistants and consultation with your instructor, you can also communicate with your instructor through WebAssign®.

If your instructor enabled these features, you can:

- Send a private message to your instructor
- Send an Ask Your Teacher message about a specific assignment
- Request more time to complete an assignment

Send Your Teacher a Private Message

A private message is a message that you can send to your instructor. The message might also be delivered to someone the instructor designated to read and respond to them, such as a Teaching Assistant.

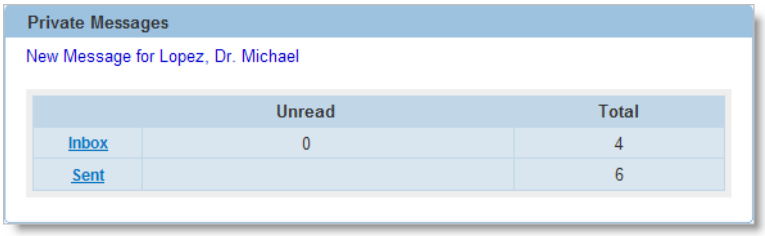
You can send these messages from your Communication page in WebAssign®. The instructor knows that the message came from you, and he or she knows which class the message is about.

This feature is displayed as a "New Message For" link in the Private Messages section of your Communication page.

If the link is not displayed and you want to have the option to send your instructor messages from this location, ask your instructor to enable private messages in WebAssign®.

To send a private message:

1. Select a class from the My Classes drop-down menu.
2. From the menu bar, click **Communication**.
3. Under Private Messages, click **New Message for** *name* where *name* is the name of your instructor.



4. Enter a subject and your message, and click **Send**.

   You are returned to your Communication page, and the message is added to your Sent total. You can click the **Sent** link to view message details.

Ask Your Teacher About an Assignment

If your instructor enabled the Ask Your Teacher feature, you can send your instructor a message to ask a question about the assignment you are working on.

To do so, click the Ask Your Teacher link at the top or bottom of the assignment.

To send an Ask Your Teacher message:

1. Navigate to the top or bottom of the assignment you are working on.
2. Click **Ask Your Teacher**.
3. Type your message.

Provide as much detail as you can so your instructor can give you useful advice. Enter any specific concerns you might have.

4. Click **Save**.
   A confirmation message displays the date and time you sent the request.

View Responses to Ask Your Teacher Messages

After your instructor responds to an Ask Your Teacher message you can view the response.

To view responses to your Ask Your Teacher messages:

1. Navigate to the top or bottom of the assignment from which you sent an Ask Your Teacher message.
2. Click **Ask Your Teacher**.

   Your message and any responses are displayed in the Ask Your Teacher window.

Ask for More Time or Submissions

If your instructor allows you to request more time or more submissions for an assignment, an Extension Request link is displayed in the assignment.

Your instructor can allow automatic or manual extension requests for all assignments, for some assignment categories, or for no assignments.

Note: Only your instructor can give you extensions, change your score, allow extra submissions, or help you with the content of your assignments — not the WebAssign® Customer Support staff.

Ask Your Instructor for an Extension

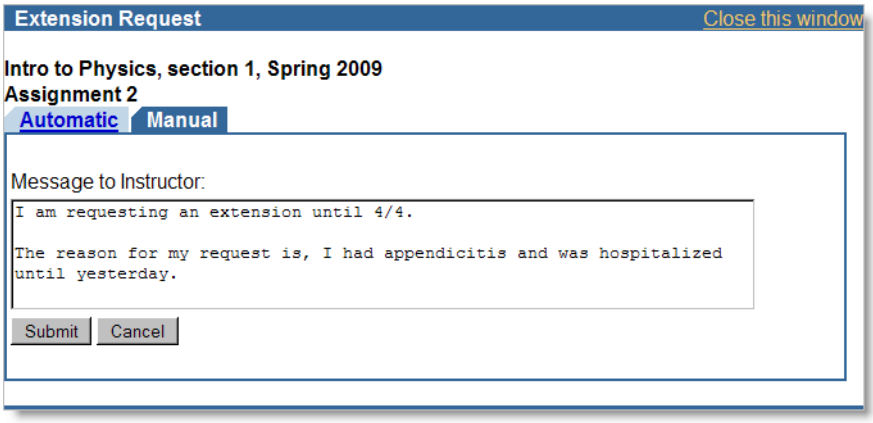
Your instructor might let you ask for a manual extension of the due date for some assignments in WebAssign®. If so, your instructor will review your request and decide whether or not to give you more time.

Important: Late work usually has consequences. Your instructor might penalize your assignment score when granting an extension.

To make a manual extension request, if allowed:

1. While working on your assignment, click **Extension Request**.
2. Click the **Manual** tab.
3. Enter your message and click **Submit**.

Your instructor will review your request and can choose to approve it, deny it, or request additional information from you before making a decision.



Check the Status of Your Extension Request

After you ask your instructor for an extension, check WebAssign® to see if your request has been granted.

To check the status of your extension request:

1. While working on your assignment, click **Extension Request**.

   Any responses your instructor has made to your request are displayed. Your instructor might provide you with information about penalties that apply to the extension or explain why your request is denied.

   If your instructor grants your request, your Current Assignments will display a new due date for the assignment, but you can see additional information about the extension only in the Extension Request window.

   Your instructor also might ask you to provide additional information before making a decision about your request.

2. If your instructor has requested additional information, type a message and click **Submit**.

Get an Automatic Extension

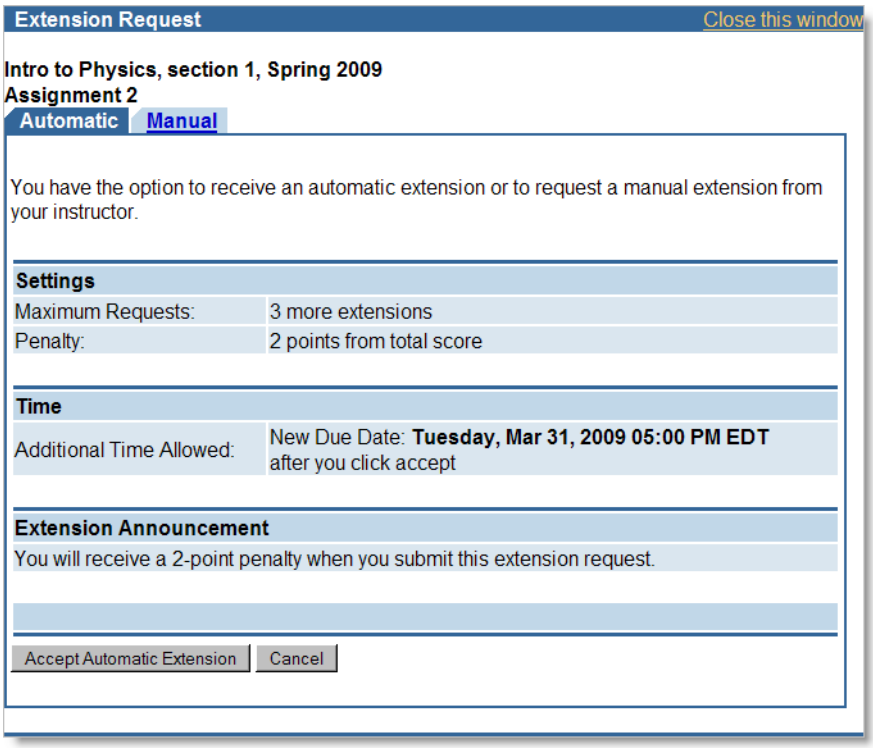
Your instructor might let you have an automatic extension of the due date for some assignments in WebAssign®.

Important: Late work usually has consequences. Your instructor might penalize your assignment score when granting an extension.

To make an automatic extension request, if allowed:

1. While working on your assignment, click **Extension Request**.

2. Click the **Automatic** tab, if necessary.
3. Pay particular attention to the Penalty that is displayed under Settings to find out what penalty, if any, applies.
4. Do one of the following:
   - If you accept the terms of the extension, click **Accept Automatic Extension**. You can then begin working on the past due assignment.
   - If you do not want to accept the extension, click **Cancel**. For example, a penalty might apply to each automatic extension request and you might decide not to accept the extension.



10

Forums

This chapter contains the following topics:

Forums are for discussions with all of the members of your class. If your instructor creates a forum, you can then create topics within the forum or contribute to a current topic by posting a message.

forum

A group of related topics for discussion. Only your instructor can create forums. For example, "Homework Questions."

topic

A group of posts about a particular theme in a forum. You can create a new topic if needed. For example, "Homework 1."

post

An individual message in a forum topic. Add new posts to contribute to the conversation. For example,

> A cool mnemonic for remembering the order of "Kingdom, Phylum, Class, Order, Family" is "King Phillip Called Off Fighting."

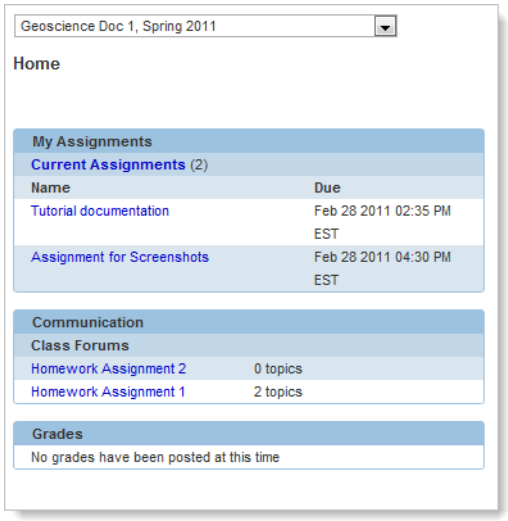
If you do not see any forums and you would like them, ask your instructor to set up forums in WebAssign®.

View Forums, Topics, and Posts

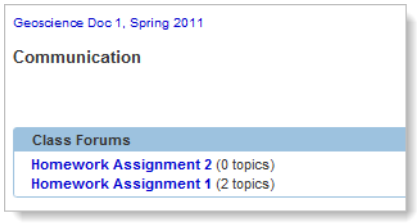
You can access the forums for your class either through your class Home page or by using the Communication menu.

To view forums, topics, and posts for your class:

1. If necessary, select your class from the **My Classes** menu.
2. Click **Home** or **Communication**.
   - On the Home page, forums are listed under **Communication**.

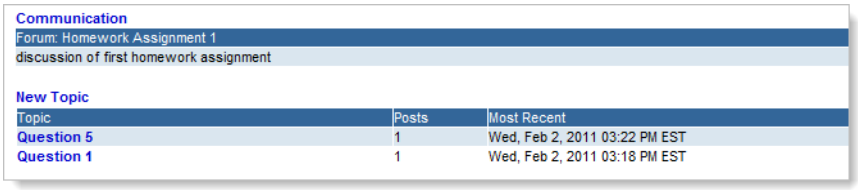


   - On the Communication page, forums are listed under **Class Forums**.

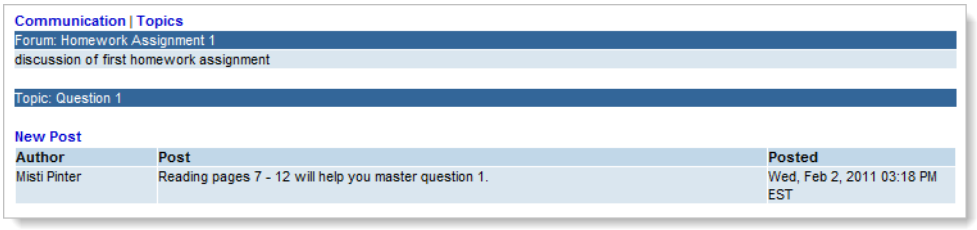


3. Under **Class Forums**, click the forum you want to view.

   The topics in the forum are displayed.



4. Click on a topic to see the posts associated with the topic.



- To return to the list of topics, click **Topics**.
- To return to the list of forums, click **Communication**.

Post a Message in a Forum

Posting a message in a forum allows you to contribute to a conversation about a topic. Posts are displayed in chronological order, from oldest to newest, and you cannot delete a message once you have posted it. Your instructor has the ability to remove your post.

To post messages in a forum topic:

1. Under **Class Forums**, click the forum you want to post in.
2. Click on the topic you want to post in.
3. Click **New Post**.

4. Type your message in the **Post** box.
5. Click **Save** to post your message.

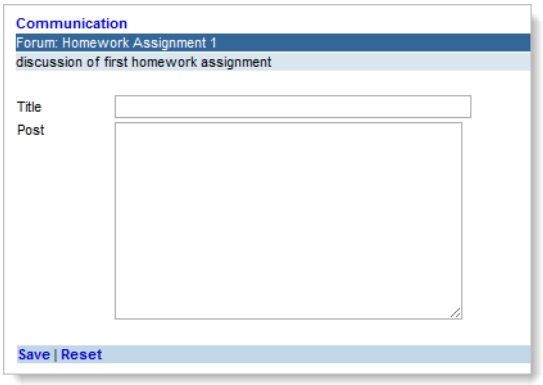
Create a Forum Topic

You can create a new forum topic if you have a discussion topic that does not belong in an existing topic. When you add a new topic to a forum the topic is

available to everyone in the forum and you cannot delete it. Your instructor has the ability to remove your topic.

To create a new forum topic:

1. Under **Class Forums**, click the forum you want to post a new topic in.
2. Click **New Topic**.



3. Type your topic title in the **Title** box.
4. Type your topic body in the **Post** box.
5. Click **Save** to post your topic.

11

Personal Study Plan

This chapter contains the following topics:

If available, you can use Personal Study Plan practice quizzes and tutorials to review and learn material covered in your textbook, to identify which sections you need to study, and to quiz yourself as many times as you need until you have mastered the material.

The Personal Study Plan is not a generic list of sections in the textbook that you need to study. Instead, it uses short, randomized practice and chapter quizzes to evaluate your knowledge of specific concepts and textbook sections and then suggests tutorial materials that address the specific areas where you are having difficulty. After reviewing the tutorials, you can test yourself again to confirm and reinforce what you learned.

The Personal Study Plan is available only for selected textbooks, and must be enabled by your instructor. Depending on how your instructor set up the Personal Study Plan, you might use it in different ways:

- Personal Study Plan chapter quizzes might be part of your class grade, replacing or in addition to homework assignments in WebAssign®.
- Personal Study Plan chapter and practice quizzes are an excellent way to study for tests or examinations.
- A Personal Study Plan might include parts of a textbook that are prerequisites for the current course, so you can brush up on anything that you might have forgotten.
- A Personal Study Plan might include parts of the textbook that cannot be covered in class, so you have an opportunity to study those sections on your own.

Check If a Personal Study Plan Is Set Up for Your Class

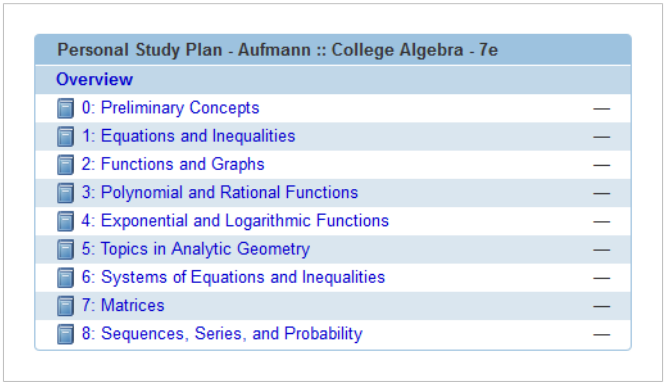
If your instructor has set up a Personal Study Plan for your class, you can access it from your Home page.

To check if a Personal Study Plan is enabled for your class:

Click **Home**.

If necessary, select a class from the **My Classes** menu.

If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.



See Also:

Personal Study Plan Strategies on page 188
Home Page: Personal Study Plan Panel on page 183

Check If a Personal Study Plan Is Part of Your Grade

Your instructor should let you know if the Personal Study Plan counts toward your grade.

Usually, this information will be included in the syllabus or a class announcement. Your instructor might also put this information in the description or instructions for the Personal Study Plan that are displayed at the top of the Personal Study Plan Overview page.

Note: Do not assume that the Personal Study Plan is not part of your grade just because your instructor neglected to state this in the description or instructions for the Personal Study Plan.

If the Personal Study Plan does count toward your grade, only the average of your scores for Personal Study Plan chapter quizzes is counted. Personal Study Plan practice quizzes do not count toward your grade in WebAssign®.

See Also:

Personal Study Plan Strategies on page 188

Parts of a Personal Study Plan

A Personal Study Plan includes the following parts:

Personal Study Plan Overview page

The Personal Study Plan Overview page shows you what chapter and practice quizzes you have taken and how you scored. You can take quizzes or see tutorials from here.

Chapter quizzes

Chapter quizzes test your knowledge of every section of the chapter that your instructor included in the Personal Study Plan. Chapter quizzes might include questions that are more complex than practice quizzes.

When you take a chapter quiz, your scores for questions from each section of the chapter replace the scores of your practice quizzes for that chapter.

Note: If your instructor set up the Personal Study Plan as part of your class grade, your overall score for the Personal Study Plan is the average of all your chapter quiz scores. Only your last chapter quiz scores are counted.

You can take a chapter quiz as many times as you want, with a new set of randomized questions each time.

Practice quizzes

Practice quizzes test your knowledge of one chapter section at a time, and do not count toward your grade in WebAssign®. Practice quiz questions might be simpler than chapter quiz questions; if you are learning the material for the first time, or are not confident about the material, start by taking a practice quiz.

You can take a practice quiz as many times as you want, with a new set of randomized questions each time. Your instructor can view scores for both practice and chapter quizzes. This helps your instructor know if there are subject areas for which either you or the class as a whole might benefit from additional instruction.

Tutorial materials

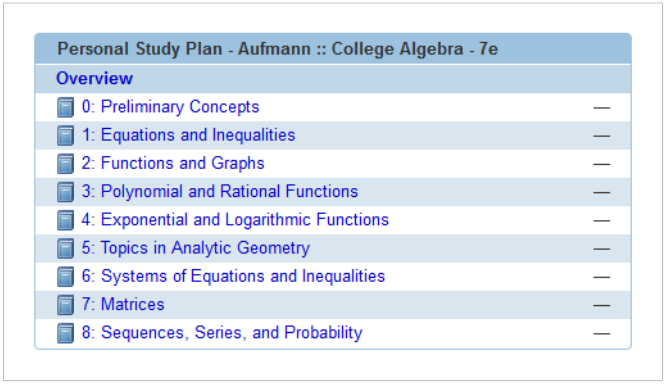
Tutorial materials might include videos, interactive examples, or reading material, depending on your textbook. After you have taken a chapter or practice quiz, the tutorial materials that relate to questions you missed for the section are listed as suggestions.

Home Page: Personal Study Plan Panel

The Personal Study Plan panel on your Home page displays the chapters included in the Personal Study Plan and your most recent chapter quiz scores.

To view this panel, click **Home**. If necessary, select a class from the **My Classes** menu.

The Personal Study Plan panel is displayed only when a Personal Study Plan is set up for your class.



Item	Description
Personal Study Plan - *textbook name*	The title of the Personal Study Plan panel displays the name of the textbook for the Personal Study Plan. If your class uses more than one textbook with an enabled Personal Study Plan, a separate Personal Study Plan panel is displayed for each textbook.
Overview	Click **Overview** to open the Personal Study Plan Overview page.
Chapter name	The Personal Study Plan panel lists each chapter in the Personal Study Plan. Click a chapter title to open the Personal Study Plan Overview page with that chapter expanded.
Score	Your latest score for each chapter quiz is displayed for each chapter.

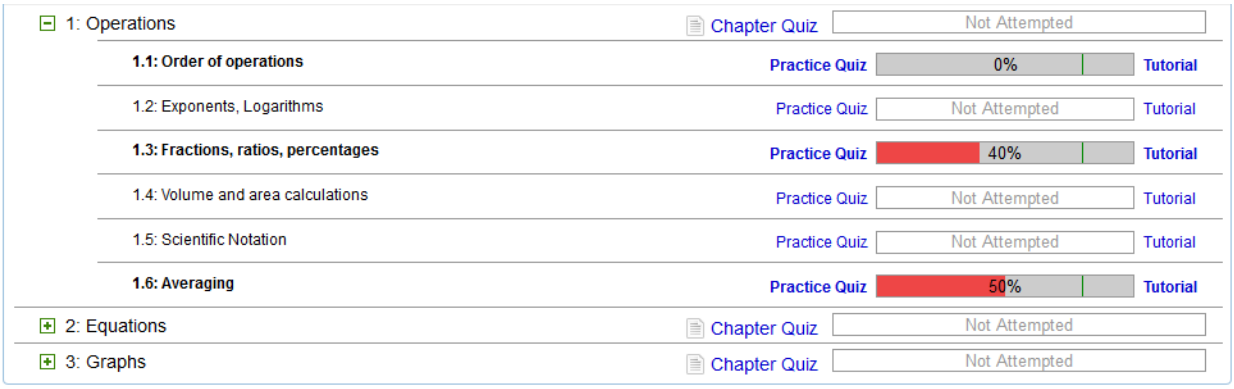
See Also:
Personal Study Plan Overview Page on page 184

Personal Study Plan Overview Page

The Personal Study Plan Overview page displays all the chapters and sections included in the Personal Study Plan, your most recent Personal Study Plan quiz scores, and links to take Personal Study Plan quizzes or view tutorial materials.

Note: From a Personal Study Plan chapter or practice quiz, or from the Personal Study Plan Tutorial page, you can click either **Overview** or **Personal Study Plan** to view the Personal Study Plan Overview page.

You can access the Personal Study Plan Overview page only when a Personal Study Plan is set up for your class.



Item	Description
Textbook name	Displays the name of the textbook for the Personal Study Plan. If your class uses more than one textbook with an enabled Personal Study Plan, each textbook's Personal Study Plan will open its own Personal Study Plan Overview page.
	Opens the WebAssign® Student Help System in a new window and displays information about using Personal Study Plans.
About	Displays information about the Personal Study Plan. Your instructor can customize this information.
Instructions	Displays instructions for using the Personal Study Plan. Your instructor can customize this information.
	Expands a chapter to show section-level information.
	Collapses a chapter to hide section-level information.
Chapter name	Identifies a chapter included in the Personal Study Plan. Your instructor might have configured the Personal Study Plan not to include every chapter in the textbook.
	Identifies a section that your instructor has marked as a key concept. What your instructor means when they flag a section as a key concept might vary, but the intent is that you should pay special attention to this section.
Section name	Identifies a section included in the Personal Study Plan. Your instructor might have configured the Personal Study Plan not to include every section in the chapter.
Chapter Quiz	Opens a Personal Study Plan chapter quiz.
Practice Quiz	Opens a Personal Study Plan practice quiz.

Item	Description
Progress bar with score	Your scores for chapter and practice quizzes are shown in progress bars that indicate your performance in relation to the mastery levels set by your instructor. • Green indicates that the score equals or exceeds the mastery level. • Yellow indicates that the score is at least 75% of the mastery level. • Red indicates that the score is less than 75% of the mastery level. **Note:** Only your most recent scores are shown. If you took a chapter quiz more recently than a practice quiz in that chapter, the practice quiz score reflects your score for questions on the chapter quiz that relate to that section.
Tutorial	Opens the Personal Study Plan Tutorial page, which lists tutorial materials for the section.

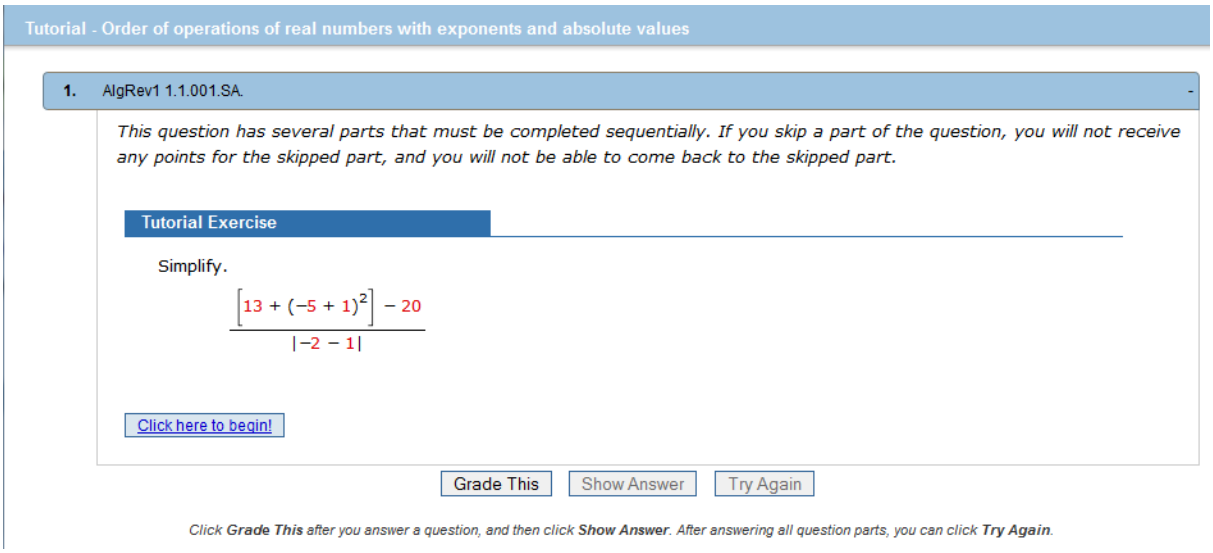
See Also:
Home Page: Personal Study Plan Panel on page 183
Personal Study Plan Tutorial Page on page 186

Personal Study Plan Tutorial Page

The Personal Study Plan Tutorial page displays tutorial materials for a specific section of the Personal Study Plan.

Note: From a Personal Study Plan chapter or practice quiz, or from the Personal Study Plan Overview page, you can click **Tutorial** to view the Personal Study Plan Tutorial page.

You can access the Personal Study Plan Tutorial page only when a Personal Study Plan is set up for your class.



Item	Description
Textbook name	Displays the name of the textbook for the Personal Study Plan.
Chapter name	Identifies the chapter for which you are viewing tutorials.
Section name	Identifies the section for which you are viewing tutorials.
Chapter Quiz	Opens a Personal Study Plan chapter quiz.
Practice Quiz	Opens a Personal Study Plan practice quiz.
Progress bar with score	Your scores for chapter and practice quizzes are shown in progress bars that indicate your performance in relation to the mastery levels set by your instructor. • Green indicates that the score equals or exceeds the mastery level. • Yellow indicates that the score is at least 75% of the mastery level. • Red indicates that the score is less than 75% of the mastery level. **Note:** Only your most recent scores are shown. If you took a chapter quiz more recently than a practice quiz in that chapter, the practice quiz score reflects your score for questions on the chapter quiz that relate to that section.
Suggestions	Lists tutorial materials that relate to questions you missed on either the chapter or practice quiz. See Kinds of Tutorial Materials on page 187.
	Shows the number of students who rated a tutorial as helpful.
	Shows the number of students who rated a tutorial as not helpful.
Rate This	Opens the feedback window for you to rate a tutorial as helpful or not.
Additional Resources	Lists other tutorial materials that are available for the section. See Kinds of Tutorial Materials on page 187.
Overview	Opens the Personal Study Plan Overview page.

Kinds of Tutorial Materials

Tutorial materials might include videos, interactive examples, or reading material, depending on your textbook. After you have taken a chapter or practice quiz, the tutorial materials that relate to questions you missed for the section are listed as suggestions.

Note: Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.

Some common kinds of tutorial materials are listed below.

Icon	Description
	Flash paper (typically for reading text)
	Video

Icon	Description
	Audio recording
	Interactive tutorial (might not be in Flash)
	PDF

See Also:
Personal Study Plan Overview Page on page 184

Personal Study Plan Strategies

Depending on how the Personal Study Plan is set up and your personal objectives, you might work through the Personal Study Plan in different ways.

To do this	Do this
Refresh your mastery of topics that you learned before	1. Start by taking the chapter quiz. 2. Review your results for each section and identify any sections you need to work on. 3. If needed, use the tutorials to brush up on specific topics. 4. Take practice quizzes until you master each section. 5. Take the chapter quiz to confirm your mastery of the entire chapter.
Practice new topics as they are taught	1. Take the practice quiz for each section immediately after learning the material. 2. If needed, use the tutorials to brush up on specific topics. 3. Take the practice quiz again before class in case you need to ask questions about something you don't understand. 4. At the end of each chapter, take the chapter quiz to confirm your mastery of the entire chapter.
Review for an upcoming test or examination	1. Start by taking the chapter quiz. 2. Review your results for each section and identify any sections you need to work on. 3. If needed, use the tutorials to brush up on specific topics. 4. Take practice quizzes until you master each section. 5. Take the chapter quiz to confirm your mastery of the entire chapter.

To do this	Do this
Demonstrate your mastery of the material	1. Take the chapter quiz to demonstrate your mastery of the entire chapter. 2. Review your results for each section and identify any sections you need to work on. 3. If needed, use the tutorials to brush up on specific topics. 4. Take practice quizzes until you master each section. 5. Take the chapter quiz again to improve your score.

See Also:

Check If a Personal Study Plan Is Set Up for Your Class on page 182
Check If a Personal Study Plan Is Part of Your Grade on page 182
Take a Personal Study Plan Quiz on page 189
Review Your Personal Study Plan Scores on page 191
View a Personal Study Plan Tutorial on page 191
Rate a Personal Study Plan Tutorial on page 192

Take a Personal Study Plan Quiz

You can take Personal Study Plan chapter and practice quizzes to test or demonstrate your knowledge or to identify areas where you could benefit from additional study or instruction.

Chapter quizzes

Chapter quizzes test your knowledge of every section of the chapter that your instructor included in the Personal Study Plan. Chapter quizzes might include questions that are more complex than practice quizzes.

When you take a chapter quiz, your scores for questions from each section of the chapter replace the scores of your practice quizzes for that chapter.

Note: If your instructor set up the Personal Study Plan as part of your class grade, your overall score for the Personal Study Plan is the average of all your chapter quiz scores. Only your last chapter quiz scores are counted.

You can take a chapter quiz as many times as you want, with a new set of randomized questions each time.

Practice quizzes

Practice quizzes test your knowledge of one chapter section at a time, and do not count toward your grade in WebAssign®. Practice quiz questions might be simpler than chapter quiz questions; if you are learning the material for the first time, or are not confident about the material, start by taking a practice quiz.

You can take a practice quiz as many times as you want, with a new set of randomized questions each time. Your instructor can view scores for both practice and chapter quizzes. This helps your instructor know if there are subject areas for which either you or the class as a whole might benefit from additional instruction.

To take a Personal Study Plan practice or chapter quiz:

1. Click **Home**.

   If necessary, select a class from the **My Classes** menu.

   If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.

2. In the Personal Study Plan panel, click **Overview** or a chapter title.

   The Personal Study Plan Overview page opens. If you clicked a chapter title, that chapter is expanded and lists the sections of the chapter that are included in the Personal Study Plan.

3. Read the instructions for the Personal Study Plan.

   The instructions might provide information about how your instructor wants you to use the Personal Study Plan or if chapter quizzes count toward your grade.

   > **Note:** Do not assume that the Personal Study Plan is not part of your grade just because your instructor neglected to state this in the description or instructions for the Personal Study Plan.

4. If needed, click ⊞ to expand the chapter you want to study.

5. Beside the chapter or section for which you want to take a quiz, click either **Chapter Quiz** or **Practice Quiz**.

   The chapter or practice quiz opens.

6. Answer the questions to the best of your ability.

   > **Note:** After submitting your responses to a quiz, you can only review your question responses while you are in the current session. Your question responses are not saved and you cannot review them in a later session.

7. Click **Submit All Questions**.

The quiz score is displayed at the top of the quiz in the Quiz Results section, along with your first and best scores.

You can review which of your answers were correct and which were not. If available, you can use Practice Another Version or tutorial links to work on specific questions.

- Click **Overview** to go back to the Personal Study Plan Overview page.
- Click **Tutorial** to open the Tutorial page and use online resources to learn the relevant material before you retake the quiz.
- Click **Retake Quiz** to retake the quiz with different randomized values.

See Also:

Personal Study Plan Strategies on page 188
Check If a Personal Study Plan Is Part of Your Grade on page 182
Personal Study Plan Overview Page on page 184

Review Your Personal Study Plan Scores

You can review your scores for chapter and practice quizzes on a Personal Study Plan.

You might want to review your scores to see which sections you need to study, or to calculate your overall score for the Personal Study Plan, if it is part of your grade.

To view your scores for a Personal Study Plan:

1. Click **Home**.

   If necessary, select a class from the **My Classes** menu.

   If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.

2. In the Personal Study Plan panel, click **Overview** or a chapter title.

   The Personal Study Plan Overview page opens. If you clicked a chapter title, that chapter is expanded and lists the sections of the chapter that are included in the Personal Study Plan.

3. If needed, click ⊞ to view practice quiz scores for a chapter.

Your scores are displayed on the Personal Study Plan Overview page.

Note: Only your most recent scores are shown. If you took a chapter quiz more recently than a practice quiz in that chapter, the practice quiz score reflects your score for questions on the chapter quiz that relate to that section.

If the Personal Study Plan is part of your grade, you can calculate your overall Personal Study Plan score by averaging your chapter quiz scores. Add up all of your chapter quiz scores and then divide by the number of chapter quizzes. The weight of the Personal Study Plan toward your final grade is determined by your instructor.

See Also:
Personal Study Plan Strategies on page 188
Personal Study Plan Overview Page on page 184

View a Personal Study Plan Tutorial

You can view tutorial materials for every section of the textbook included in a Personal Study Plan.

Tutorial materials might include videos, interactive examples, or reading material, depending on your textbook. After you have taken a chapter or practice quiz, the tutorial materials that relate to questions you missed for the section are listed as suggestions.

These materials are displayed for one reason only: to give you the supporting learning material you need to be successful in the course. The more you use them, the more you learn.

To view a tutorial for a Personal Study Plan:

1. Click **Home**.

   If necessary, select a class from the **My Classes** menu.

   If a Personal Study Plan is available, the Personal Study Plan panel is displayed on your Home page for the class.

2. In the Personal Study Plan panel, click **Overview** or a chapter title.

   The Personal Study Plan Overview page opens. If you clicked a chapter title, that chapter is expanded and lists the sections of the chapter that are included in the Personal Study Plan.

3. If needed, click ⊞ to view the sections included in a chapter.

4. Click **Tutorial** to the right of the progress bar for any section.
   The Personal Study Plan Tutorial page opens.

5. Click the link for the tutorial that you want to view.

The tutorial opens.

Note: Adobe® Flash® Player, version 10 or later is required. See Required Browser Plug-Ins on page xvi.

After you have finished using the tutorial, close it. You might be asked to rate the tutorial; rating tutorial materials is optional, and your rating is not shared with your instructor.

See Also:
Personal Study Plan Strategies on page 188
Rate a Personal Study Plan Tutorial on page 192
Personal Study Plan Tutorial Page on page 186

Rate a Personal Study Plan Tutorial

After viewing a tutorial, you can rate it as helpful or not. Rating tutorial resources is optional, but the aggregate ratings are displayed on the Personal Study Plan Tutorial page and can help other students know which tutorials they should use.

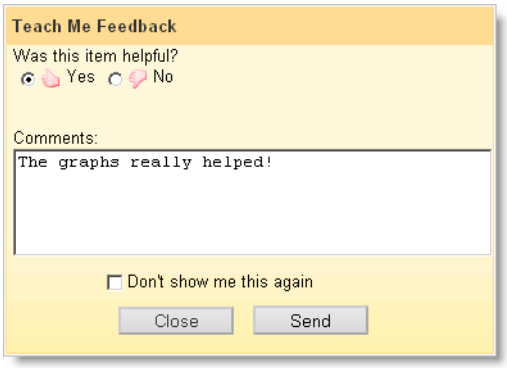
Before you can rate tutorials for a Personal Study Plan, you must have viewed at least one of the plan's tutorials.

Your ratings of tutorial resources are not shared with your instructor, and are not displayed individually to your fellow students. Instead, they are aggregated with other students' ratings. You can rate each tutorial only once.

To rate a tutorial:

1. View a tutorial. When you are finished, close the tutorial.

   Unless you have previously rated a tutorial and selected **Don't show me this again**, a feedback window is displayed.



2. If the feedback window is not displayed, click **Rate This** on the Personal Study Plan Tutorial page for the tutorial you want to rate.

   Rate This is not displayed for tutorials that you have already rated.

3. In the feedback window, rate the tutorial and optionally add a comment.
   - If the tutorial was helpful, select **Yes**.
   - If the tutorial was not helpful, select **No**.

4. If you do not want to see the feedback window when you close Personal Study Plan tutorials in the future, select **Don't show me this again**.

5. Click **Send** to submit your rating.

See Also:

Personal Study Plan Strategies on page 188
View a Personal Study Plan Tutorial on page 191
Personal Study Plan Tutorial Page on page 186
Personal Study Plan Tutorial Page on page 186

12

Use WebAssign® in a Blackboard Course

This chapter contains the following topics:

Some courses use both Blackboard and WebAssign®. Your instructor might have linked the WebAssign® and Blackboard courses so you can access WebAssign® directly from Blackboard.

Note: Ask your instructor if you are not sure whether your course uses Blackboard and WebAssign®.

Score Display

At some schools, your scores on WebAssign® assignments might be displayed in Blackboard. However, scores shown in Blackboard are not updated instantly when you submit your WebAssign® assignments. Instead, these scores are updated once a day or less often, depending on the Blackboard administrator and your instructor.

See Also:

Other WebAssign Login Sites on page 6

Enrollment in WebAssign® Classes from Blackboard

If your instructor linked a WebAssign® course to the Blackboard course in which you are enrolled, your instructor will enroll you in the WebAssign® course by syncing the Blackboard class roster. You can navigate directly to the WebAssign® course from Blackboard.

Note: Ask your instructor if you are not sure whether your course uses Blackboard and WebAssign®.

See Also:
Enrollment in WebAssign Classes on page 2

Access WebAssign from Blackboard

If your instructor linked a WebAssign course to the Blackboard course in which you are enrolled, you can navigate directly to the WebAssign course from Blackboard.

Note: Ask your instructor if you are not sure whether your course uses Blackboard and WebAssign®.

To access WebAssign directly from Blackboard, your browser must be configured to accept third-party cookies.

To access WebAssign from Blackboard:

1. Log in to Blackboard.
2. Click the **Courses** tab.
3. Click a course in which you are enrolled.
4. In the course menu, click **Tools**.
5. Click either **Access WebAssign** or **WebAssign**.

   The name of the tool depends on the version of the WebAssign building block that is installed by the Blackboard administrator.

The first time you access WebAssign from Blackboard with the WebAssign building block version 2.0.1 or later, a new linked WebAssign account is automatically created for you.

Note: If you need access to a previous WebAssign account, you can link the accounts.

If you can access WebAssign from Blackboard, do not log into WebAssign directly.

See Also:
Blackboard Not Available on page 210
Not Automatically Logged in to WebAssign from Blackboard on page 210
Link Multiple Accounts on page 12

User Data Migration for WebAssign® Accounts Linked to Blackboard

If you have a linked WebAssign® account and your school has been using version 1.02 or earlier of the WebAssign® building block for Blackboard, your WebAssign® username will change after an upgrade to version 2.1.3 or later of the building block. Your Blackboard account is not changed, and you can continue to access WebAssign® through Blackboard.

No account changes are made for WebAssign® building block upgrades from version 2.0.1 and later.

After the WebAssign® building block is upgraded from version 1.02 or earlier to version 2.1.3 or later, a new linked WebAssign® account is created the first time your class roster is synced with WebAssign® or you access WebAssign® from Blackboard.

If needed, you can link another WebAssign® account to your new WebAssign® account if you know the WebAssign® username and password for the other account. See Link Multiple Accounts on page 12.

Note: After this migration, do not log into WebAssign® directly, but only through Blackboard.

13

Troubleshooting and Support

This chapter contains the following topics:

Sometimes, WebAssign® might not behave as expected. This could be the result of a technical problem, a limitation, or user error. Whatever the cause, these topics can help you understand and address some of the most common issues before contacting WebAssign® Customer Support.

Login Problems

Sometimes problems can occur when logging in to WebAssign®.

Cannot Access WebAssign®

If you cannot access WebAssign® there are several steps you can take to attempt to correct the issue.

Check the following:

- Your hardware is functioning correctly
- You are able to connect to other Internet sites
- You are using the most updated versions of your operating system, Web browser, and browser-related plugins (Flash and Java)

After you have verified the previous items, you can report your problem by submitting a help request to WebAssign® Customer Support. Provide as much of the following information as possible for the time the problem occurred/occurs:

- Username, school, and any classes you are enrolled in
- Assignment and question you are having difficulty with
- Date and time the problem occurred
- Operating system used when the problem occurred
- Antivirus program you are using
- Anti-spyware program you are using
- Name of the Web browser you are using

Important: Please note that using WebAssign® to submit your assignments does not change any provisions of your institution's honor code or affect in any way guidelines provided by your instructor about completing or submitting work.

Attempts to abuse, misuse, or otherwise violate the integrity of the WebAssign® site might not only be considered violations of the honor code, but might also be prosecuted under existing state and federal laws.

Different Name or Institution Displayed

If you see someone else's name and institution displayed at the top of any page in WebAssign®, you are logged in to that person's WebAssign® account. Most likely, that person did not log out of WebAssign® completely before you started working.

Make sure you always log in using your own account so you get credit for your work.

If you notice that you are not in your account, write down your answers and log out of the other person's account. Then, log back in using your username, institution, and password.

When you log in correctly, your username and school are displayed in the "logged in as" message. Also, your full name and institution are displayed in the box in the top right of your WebAssign® pages.

Repeated Requests to Log In

Certain pages in WebAssign® might ask you to log in repeatedly. Usually, this occurs after an extended period of inactivity, for example, if you forgot to log out of WebAssign®.

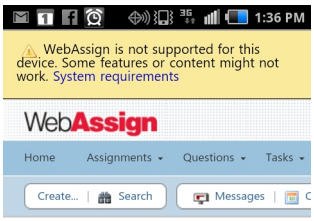
You can resolve the problem using the following steps.

1. Either click **log out** to log out of WebAssign®, or exit your browser.
2. If the problem still occurs, set your browser to accept cookies from webassign.net.

For increased security and to avoid this problem, remember to log out every time you are finished using WebAssign®.

Browser Displays a Message That WebAssign® is Not Supported

If you log in to WebAssign® from a browser version or system that is not explicitly supported by WebAssign®, a message is displayed.



Review the system requirements for WebAssign® and log in using a supported browser.

See Also:
System Requirements for WebAssign on page xv

Problems Installing Java™ on OS X

Some questions require the Java™ plugin. On Mac® OS X, the version of this plugin that you can install is dependent on the version of OS X you are using.

OS X Version 10.6 ("Snow Leopard") and Earlier

- Use the OS X Software Update feature to ensure that you are running the most current version of Java™ 6.
- Java™ 7 and later is not supported.

OS X Version 10.7 ("Lion") and Later

- Install Java™ 7 from www.java.com/getjava.
- Java™ 6 and earlier is not supported.

Note: You cannot open Java™ content in Google® Chrome™ on Mac® OS X Version 10.7 and later.

This limitation exists because Java™ 7 and later is a 64-bit plugin and Chrome™ for OS X is a 32-bit browser. On OS X 10.7 and later, you can open Java™ content using Apple® Safari® after installing the Java™ plugin.

See Also:

Required Browser Plug-Ins on page xvi
MarvinSketch Questions Do Not Display Drawing in Assignment on page 209

Problems Working on iPad®

Several WebAssign® tools are enabled for use on iPad®, allowing students to complete many assignments using Safari® on iPad®. But there are some known issues for students using an iPad®.

Tools that are supported for use with iPad® are supported only for Safari on iPad with iOS 5 or later.

Note:

- Other browsers and iOS versions might work, but are not supported.
- Performance might be slower on iPad® 1 than on iPad® 2.
- Using a Bluetooth keyboard with your iPad® might work, but is not supported. Navigation keys on Bluetooth keyboards do not move the insertion point.

mathPad, calcPad®, and physPad®

- You cannot copy or paste expressions when using these tools on an iPad®.
- The factorial, superscript, subscript, and super/subscript buttons do not display a placeholder box before the factorial sign, superscript, or subscript.

  If needed, move the insertion point before the factorial sign, superscript, or subscript and then type the notation that should be displayed.
- Intermittently, the iPad® keyboard might not display.

  Tap again in the answer box to display the keyboard.
- The **Next**, **Previous**, **Undo**, and **Redo** keys on the iPad® keyboard are not enabled.

WebAssign® Graphing Tool

- You cannot pinch to zoom in or out in the graphing tool. You can double-tap to zoom.
- Making any other change to your graph removes all fills.
- You can drag an object outside the visible area of the graph.

  To move the object back within the visible area of the graph, edit its properties in **Graph Layers**.

NumberLine™

- You cannot pinch to zoom in or out in NumberLine™. You can double-tap to zoom.

Unsupported Content

Some assignments contain content requiring either Adobe® Flash® Player or Java™. These assignments can be opened on an iPad®, but the content requiring Flash® or Java™ will not be displayed. Currently, this includes the following content:

- MarvinSketch questions
- pencilPad® questions
- publisher-provided content such as eBooks and tutorials that use Flash® or Java™
- instructor-provided content requiring Flash® or Java™

Timed Assignments

The assignment timer is not displayed for timed assignments when working on an iPad®.

See Also:

mathPad on an iPad on page 113
calcPad on an iPad on page 122
physPad on an iPad on page 131
NumberLine on an iPad on page 139
Use Graphing Tool on an iPad on page 143
Work on a Timed Assignment on page 41

Assignment Problems

Sometimes problems can occur when you are working on assignments in WebAssign®.

Assignment Loads Slowly

Sometimes, assignments load slowly in WebAssign®. Often, this is because a large assignment has been configured to display all questions at once.

A "large" assignment:

- has many questions, or
- has a few questions with many question parts, or
- uses multimedia like videos and interactive tutorials.

If the assignment displays many questions on a single page:

Your instructor might be able to change the assignment to show one question at a time.

If the assignment displays only one question at a time and is still slow:

Report the problem to WebAssign®.

Cannot Submit Assignment

When you attempt to submit an assignment, WebAssign® indicates that the assignment is past due, even though your clock indicates that it is not yet time for the assignment to be due.

WebAssign® assignment due dates and times are determined by the clocks of the WebAssign® servers, not by the date and time indicated on your computer. Every effort is made to ensure that these server clocks are accurate.

To avoid this problem, be sure to submit assignments well before the last minute. Note that the time displayed at the top of the page in WebAssign® is the WebAssign® server time when the page was loaded into your browser and might not reflect the current time on the WebAssign® server.

Questions Coded Using JavaScript May Not Work in IE 9

Due to Internet Explorer 9 not supporting older JavaScript code, certain instructor-coded questions may not work properly for students who use IE 9.

The questions that do not work properly are chemistry questions that require students to draw objects. When a student draws for these questions, the answer may not be recorded properly in the answer string. If you are a student and notice this occurring, please use a different browser to work on assignment that contain these questions.

Display Problems in Internet Explorer®

Some assignment display problems have been observed in Internet Explorer® 8 and 9 when compatibility mode is turned on.

Some of the observed symptoms include the following:

- Parts of some questions might not be visible to students.

Other symptoms might also occur.

Internet Explorer® compatibility mode can cause the browser to display the assignment as if it were an unsupported version of Internet Explorer®. There should be no need to use compatibility mode when using WebAssign®.

To resolve the problem, turn off compatibility mode.

1. Click **Tools** and clear **Compatibility View**.
2. If needed, click **Tools** > **Compatibility View Settings** and change the settings so WebAssign® pages are not displayed in compatibility mode.

Note: You might need to display the Menu bar.

See Also:

System Requirements for WebAssign on page xv

Typing in mathPad, calcPad, or physPad

Sometimes in mathPad, calcPad, or physPad, you cannot type the notation that you want.

The following keyboard entry problems are known to occur in mathPad, calcPad, and physPad questions.

When using a numeric keypad, the keys for + and = are not correctly mapped.

- To type + on a numeric keypad, press SHIFT+PLUS SIGN.
- To type = on a numeric keypad, press the PLUS SIGN key.

Typing certain symbols (|, >, <, :, and _) on Firefox on a Mac does not work.

To enter these symbols, click the pad button instead, or use a different browser.

See Also:

Answer mathPad Questions on page 110
mathPad Reference on page 114
Answer calcPad Questions on page 118
calcPad Reference on page 123
Answer physPad Questions on page 127
physPad Reference on page 132

Incorrect Characters Displayed When Typing in Some Questions

Sometimes in Flash-based question types, such as mathPad, calcPad, physPad, NumberLine, or graphing tool, the characters that are displayed in your answer are not the characters you typed. Instead, random numbers are displayed. Or, your answer might not be visible because the text is white on a white background.

This problem could also occur in Flash-based learning materials associated with your course. It occurs only on Windows computers.

This problem is caused by the GuardedID security program, which provides protection against keylogging spyware. Unfortunately, GuardedID can also interfere with normal operation of some gaming applications and WebAssign® tools.

GuardedID is installed as part of the Comcast Xfinity Constant Guard Protection Suite, and might also be included in other security packages.

To resolve this problem, either uninstall GuardedID or disable it while you are using WebAssign®. Instructions are available on the GuardedID Web Site at www.guardedid.com/support_faq.aspx.

See Also:

Answer mathPad Questions on page 110
mathPad Reference on page 114
Answer calcPad Questions on page 118
calcPad Reference on page 123
Answer physPad Questions on page 127
physPad Reference on page 132

Incorrect Question or Scoring

Sometimes when you use WebAssign® you might encounter a question that you believe either has bad content or is not being graded correctly.

When this happens you should contact your instructor. Let your instructor know the assignment, question, and issue. You instructor can check the question format and answer key for a question and escalate any content issues to WebAssign®.

Cannot Change Your Answers Even Though You Have More Submissions

For some assignments, after submitting one or more answers, you cannot change your answer again, even though you have more submissions and the assignment deadline has not passed.

If you have checked your remaining submissions and know that the deadline has not passed, the assignment might require you to get a new randomization before you can continue.

See Also:
New Randomization on page 75
View Submission Information on page 55
View a Summary of Assignments on page 36

LockDown Browser Is Not Working Properly

Sometimes, LockDown Browser does not work properly on Mac OS X or Windows.

If LockDown Browser is installed but does not work when you open an assignment that requires LockDown Browser, try uninstalling it and then installing the latest version. To install the latest version of Lockdown Browser, go to http://www.webassign.net/user_support/student/lockdown_browser.html.

See Also:
Work on an Assignment with LockDown Browser on page 40

Some Questions Require Question Part Submission

Questions that contain scored tutorials require the assignment to use question part submission in order to work correctly. You cannot save, and your students cannot complete, an assignment that contains a scored tutorial and does not use question part submission.

Scored Tutorial Questions

Tutorial questions have a distinctive user flow:

- Students must either correctly answer, skip, or use all of their submissions for each step before viewing the next step.
- Students cannot go back to complete steps they have skipped.

- The answer key is always displayed for steps after all submissions have been used or the step is answered correctly or skipped.
- Students can click tutorial hint icons to display hints.

Scored tutorial questions are shown in the assignment itself and count toward the assignment score. In the Assignment Editor, you can set the point value for the entire tutorial or for each question part.

For scored tutorial questions to work correctly, you must allow question part submission in your assignment. If you require students to submit the entire question or the entire assignment, they cannot complete the tutorial step-by-step.

You Cannot Save an Assignment With a Scored Tutorial Question

The most common symptom you might see is that you cannot save an assignment that contains scored tutorial questions unless question part submission is set for the assignment.

To resolve this situation, perform either of the following tasks:

- Set the assignment to allow question part submission
- Remove the questions with scored tutorials from the assignment

Your Students Cannot Open an Assignment With a Scored Tutorial Question

This symptom is rare because WebAssign prevents you from saving an assignment with a scored tutorial question unless question part submission is set for the assignment. However, it can occur if you first create the assignment, and then change one of the questions on the assignment to include a scored tutorial.

To resolve this situation, perform one of the following tasks:

- Set the assignment to allow question part submission
- Remove the questions with scored tutorials from the assignment
- Edit the questions with scored tutorials and change the scored tutorials to optional popup tutorials

WebAssign® Displays Your answer was not submitted

Sometimes the Mathematica® server does not respond quickly enough when grading mathPad, calcPad®, or physPad® questions.

Note: This is a known problem that WebAssign® is working to correct.

If this happens:

- You do *not* lose a submission.
- WebAssign® displays the message Your answer was not submitted with a link to this help topic.

If you see this message, submit your answer again.

If the problem happens again for the same answer box:

Rarely, this problem will happen more than once for the same answer box. If this happens, the answer box shows your last submitted answer instead of the new answer you were trying to submit.

1. Change your answer back to the answer you want to submit.
2. Submit your answer again.

MarvinSketch Problems

Some problems have been reported in specific situations when you are using the MarvinSketch tool in WebAssign®.

Cannot Open MarvinSketch or Java™ Questions in Chrome™

Some questions, including questions using MarvinSketch or JME, require the Java™ browser plugin. After an upgrade to Java™ 7, you can no longer open these questions because the Java™ plugin for Google® Chrome™ is no longer installed. The following message is displayed: Java(TM) is required to display some elements on this page.

This problem affects users of the Chrome™ browser on Microsoft® Windows® and Mac® OS X with Java™ 7 installed. On these operating systems, Chrome™ is a 32-bit browser and the 64-bit Java™ 7 plugin cannot be installed.

To use MarvinSketch, JME, or other questions requiring the Java™ plugin, log in to WebAssign® using a different browser.

Microsoft® Windows®

Use Mozilla® Firefox®, version 12 or later or Internet Explorer®, version 8 or later.

Mac® OS X

Use Apple® Safari®, version 5.1 or later.

See Also:

Required Browser Plug-Ins on page xvi

MarvinSketch Does Not Work in Firefox® on OS X

Sometimes, MarvinSketch stops working in Mozilla® Firefox® on Mac® OS X.

This problem is a known issue with Java™ applets and Firefox® on OS X.

If this problem occurs, use Safari® instead.

MarvinSketch Does Not Work in Internet Explorer®

Sometimes, MarvinSketch either does not load correctly or does not update a student's answer when using Internet Explorer®.

This problem happens when compatibility mode is enabled in Internet Explorer®.

Internet Explorer® compatibility mode can cause the browser to display the assignment as if it were an unsupported version of Internet Explorer®. There should be no need to use compatibility mode when using WebAssign®.

To resolve the problem, turn off compatibility mode.

1. Click **Tools** and clear **Compatibility View**.
2. If needed, click **Tools** > **Compatibility View Settings** and change the settings so WebAssign® pages are not displayed in compatibility mode.

Note: You might need to display the Menu bar.

MarvinSketch Questions Do Not Display Drawing in Assignment

If a downgraded version of Java™ has been installed on Mac® OS X version 10.7 ("Lion") and later, you will see problems with MarvinSketch questions. Your drawing is not displayed in the assignment, and correct answers are marked incorrect.

This problem affects only Mac® OS X version 10.7 ("Lion") and later on which Java™ version 6 has been installed.

Note: Java™ version 6 is not supported on OS X 10.7 and later.

To resolve this problem, either use a different computer or use the following procedure to upgrade Java™ to version 7 or later. You must have administrator privileges on the computer.

To upgrade a downgraded version of Java™ on Mac® OS X version 10.7 and later:

1. Open the Terminal.
2. Enter the following command:

   ```
   sudo ln -sf /System/Library/Frameworks/JavaVM.framework/Versions/
   Current/Commands/javaws /usr/bin/javaws
   ```

   When prompted, enter your system password to authorize the command.

   This removes the symbolic link that was created when the Java™ version was downgraded.
3. Install a supported version of Java™.

See Also:

Problems Installing Java on OS X on page 201
Required Browser Plug-Ins on page xvi

MarvinSketch Does Not Work in Safari® on Windows®

For some versions of Apple® Safari® on Microsoft® Windows®, the Java™ applet required by MarvinSketch does not load.

MarvinSketch is not supported for Safari® on Windows®. To answer MarvinSketch questions, log in to WebAssign® using another supported browser.

Blackboard Problems

Sometimes problems can occur with WebAssign® and Blackboard.

Not Automatically Logged in to WebAssign® from Blackboard

When you open WebAssign® from Blackboard, you should be automatically logged in to WebAssign®. Sometimes this does not happen and the WebAssign® login page is displayed instead.

This problem occurs when your Web browser is not configured to accept third-party cookies.

To resolve the problem, configure your browser to accept third-party cookies and try again.

To configure your browser to accept third-party cookies:

Refer to the instructions for your browser.

- Firefox 12 or later: support.mozilla.org/en-US/kb/enable-and-disable-cookies-website-preferences
- Internet Explorer 8 or later: windows.microsoft.com/en-US/windows7/Block-enable-or-allow-cookies
- Safari 5.1 or later: support.apple.com/kb/PH11913
- Chrome 19 or later: support.google.com/chrome/bin/answer.py?hl=en&answer=95647

See Also:

Access WebAssign from Blackboard on page 196

Blackboard Not Available

If the Blackboard system is unavailable, you can log in to WebAssign® directly if you have previously set your WebAssign® password.

WebAssign® accounts generated by Blackboard do not have passwords because authorization is performed by the Blackboard system. Before you can log in to WebAssign® directly, you must set your password using the steps described here.

To set a WebAssign® password for your Blackboard-created account:

1. Log in to WebAssign® through Blackboard.
2. Write down your WebAssign® username.

   Your username is displayed in the top right corner of the WebAssign® page.
3. Set your email address in WebAssign®.

   You need an email address in order to reset your password.

4. Reset your password.

   Since Blackboard does not create a WebAssign® password for you, you need to reset your password in order to create a password.

After noting your WebAssign® username and creating your password, you can log in to WebAssign® directly.

If you need help with your account, submit a help request.

See Also:
Change Your Email Address on page 11
Reset Your Password on page 14
Log in on page 5
Access WebAssign from Blackboard on page 196

Content Security Warning

Rarely, your browser might display a warning that a page in WebAssign® contains some content that is not encrypted or secure. The browser message might be like one of the following messages:

- This page contains both secure and nonsecure items. Do you want to display the nonsecure items?
- Do you want to view only the webpage content that was delivered securely? This webpage contains content that will not be delivered using a secure HTTPS connection, which could compromise the security of the entire webpage.
- You have requested an encrypted page that contains some unencrypted information. Information that you see or enter on this page could easily be read by a third party.

Your browser might also display a broken padlock icon or a padlock icon with an exclamation point to indicate this situation.

Important: This warning does not indicate that anything is wrong with WebAssign® itself. It occurs when an assignment, question, communication, or other user-created content in WebAssign® references images or other files from outside of WebAssign®.

When this warning is shown, your browser usually gives you a choice to view the unencrypted content. If you do not think that the unencrypted content poses a security risk, choose to view it.

If you are concerned that the unencrypted content might pose a security risk, choose not to view it and contact WebAssign® Customer Support to request investigation of the content. In most cases, an assignment or question that references unencrypted content can be updated to reference only secure content from WebAssign®.

WebAssign® Customer Support

Help with using WebAssign® is just a few clicks or a phone call away.

Sometimes, you need a personalized answer to a specific question. Or, you are having a problem that is not covered by the known issues or helps. WebAssign® Customer Support is fast and free.

- From the WebAssign® application:
  1. Click **Help**.
  2. From the help system, click > **Customer Support**.
- Go to webassign.force.com/wakb2/?cu=1&fs=ContactUs&l=en_US.
- Call (800) 955-8275.

The WebAssign® Customer Support staff *cannot*:

- change your username or password
- give extensions
- change your score
- give you extra submissions
- help you with the content of assignments
- resolve problems with PayPal payments

See Also:

Submit a request to WebAssign® Customer Support at webassign.force.com/wakb2/?cu=1&fs=ContactUs&l=en_US

PayPal Support

For support with PayPal-related problems, contact PayPal directly. WebAssign® Customer Support cannot resolve PayPal problems.

- Online: www.paypal.com
- Telephone: (402) 935-2050

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Accessibility

This chapter contains the following topics:

WebAssign® is committed to providing powerful education tools and content for all students, including students with disabilities.

Accessibility for students with visual impairments is particularly an issue with science, technology, engineering, and math (STEM) content, which traditionally uses complex notation and figures. WebAssign® has worked to provide accessible representations of both notation and figures to screen readers. And, students entering math notation can use the same "calculator" notation that is read by the screen reader without worrying about the visual representation of the math.

Accessible content in WebAssign® is tested using the following screen reader versions:

- JAWS®, version 14.0
- Window-Eyes™, version 8.2
- ZoomText®, version 12.0

See Also:
NC State University IT Accessibility

Screen Reader Configuration for STEM Content

Screen readers usually need to be configured differently to read science, technology, engineering, and math (STEM) content than for other types of content.

Recommended Settings

Announce capital letters

Capital and lowercase letters are not interchangeable in STEM content.

Announce numbers written with a slash as fractions rather than dates

For example, 1/2 should be read as one over two, not January second.

Announce superscripts and subscripts

This notation is common and important for STEM content.

Announce all plus and minus signs

Often, screen readers are configured not to announce minus signs or hyphens. Notation like $-x$ or $-x$ should be announced as minus x.

Announce UTF-8/special characters

Often, screen readers are configured not to announce characters like nabla (∇), plus or minus ($\pm$), greater than or equal to ($\geq$), less than or equal to ($\leq$), union ($\cup$), or intersection ($\cap$) that are used extensively in STEM content. The names of these characters should be announced.

For JAWS®, see JAWS Symbols File on page 215.

Announce alt text for images

Accessible content in WebAssign® uses the `alt` attribute for images.

- If the `title` attribute is used, its text is the same as the `alt` attribute.
- The `longdesc` attribute is not used.

Announce all images

Small images are sometimes used to display symbols in WebAssign® content; these images have alt text provided and should be announced.

Note: JAWS® cannot be configured to announce all images; instead, configure JAWS® image settings to the smallest allowable values.

Optional Settings

Update dictionary settings to correctly pronounce STEM terms

This is something you might want to do on a case-by-case basis when the screen reader first mispronounces a STEM term. Commonly mispronounced terms include:

- short forms of trigonometric functions like sin, cos, and tan
- the mathematical function lim (announce as “limit on”)
- -> or --> (announce as “right arrow”)
- != (announce as “not equals”)

Announce a series of underscore characters

A series of underscore characters — typically five or more — is sometimes used in a fill-in-the-blank phrase. You can announce this with a special word, voice, or sound.

Voice synthesizer settings

Choose voice synthesizer settings that are easiest for you to understand questions with STEM content. WebAssign® recommends:

- Use SAPI instead of Eloquence
- Choose a clear voice with precise enunciation like Emily or Anna
- Use proofing mode
- Set the speed a little slower than normal
- Set the pitch a little lower than normal

JAWS® Symbols File

To enable JAWS® to announce additional characters, you can edit the symbols file associated with the speech engine you are using. A sample symbols file for the SAPI engine is linked from this topic.

To use this symbols file, save it to the path used by your installation of JAWS®. This is typically something like the following:

- `C:\Documents and Settings\`*`User`*`\Application Data\Freedom Scientific\JAWS\`*`version`*`\`
- `C:\Users\All Users\Freedom Scientific\Jaws\`*`version`*`\Settings\enu\`

Support

Contact WebAssign® Customer Support for help with technical issues with WebAssign®. WebAssign® Customer Support *cannot* provide help with specific assistive technologies used to access WebAssign®.

See Also:

System Requirements for WebAssign on page xv
Sample JAWS® Symbols File for SAPI
JAWS® Documentation
Window-Eyes™ Documentation
ZoomText® Documentation
VoiceOver Getting Started Guide
Calculator Notation for Symbolic Questions on page 108
WebAssign Customer Support on page 212

Configure Mac® OS X for Keyboard Accessibility

By default, Mac® OS X is not configured to use the TAB key to navigate to all items in your browser. If you are using Apple® Safari®, you also need to configure it to use TAB to navigate to all items on the page.

Note:

- These changes are not needed for Google® Chrome™.
- Only the OS X changes are required for Mozilla® Firefox®.

To configure Safari® on Mac® OS X to use the TAB key to navigate to all items:

1. Configure OS X to allow keyboard access for all controls.
   a) Open System Preferences and click **Keyboard**.
   b) Click the **Keyboard Shortcuts** tab.
   c) Under **Full Keyboard Access**, select **All controls**.
2. Open Safari and configure it to allow you to use TAB to navigate to each item.
   a) Click **Safari** > **Preferences**.
   b) Click the **Advanced** tab.
   c) Select **Press Tab to highlight each item in a webpage**.

To configure Firefox® on Mac® OS X to use the TAB key to navigate to all items:

Configure OS X to allow keyboard access for all controls.

a) Open System Preferences and click **Keyboard**.
b) Click the **Keyboard Shortcuts** tab.
c) Under **Full Keyboard Access**, select **All controls**.

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More Information

The following documents and links can provide additional information to help you.

Online Help

www.webassign.net/manual/student_guide/: The online help provides information about working in WebAssign, including completing assignments and answering different kinds of questions.

Tip: Open the online help from within WebAssign by clicking **Help** in the top right of any page.

WebAssign Student Guide

www.webassign.net/manual/WebAssign_Student_Guide.pdf: The *WebAssign Student Guide* is a PDF version of the online help.

WebAssign Knowledge Base

webassign.force.com/wakb: The WebAssign Knowledge Base provides answers to some frequently asked questions.

Terms of Use

Introduction

Welcome to WebAssign®. We hope our assessment service helps you meet your educational goals and objectives. WebAssign® is used by students to enter their answers to class assignments and receive a score and by instructors to provide assignments and communications with their students. We provide this service to you subject to the following Terms of Use (TOU).

By accessing and using our service, you are agreeing to your acceptance, without limitation or qualification, these TOU. If you do not agree with these TOU, you may not access or use WebAssign®.

The WebAssign® Service

WebAssign® (the "Service") is an online homework delivery, grading, and assessment service available to instructors through paid subscription for specified classes and time durations. The purpose of the Service is to provide instructors with a secure, accessible platform in which to assign and grade homework in order to assess student performance and comprehension. The Service can also be used for quizzes and testing depending on the instructor's application of the system.

The Service enables instructors to post of online class discussion, internal communications, grades, schedule of class events, class notes, and syllabi. We may offer other features in the future, or change or eliminate current features at any time. All of the features of the Service are subject to these TOU.

Use of Account

To use the Service, you will need a username, institution, and password. Student usernames are provided to WebAssign® by an instructor, the institution name is determined by WebAssign®, and the initial password is provided by the instructor. You should change your password before starting to use the Service to prevent unauthorized access to your assignments. To facilitate communication and for retrieval of a new password, we use email addresses.

You are solely responsible for maintaining the confidentiality of your username and password. Furthermore, you are responsible for all activities, charges, and liabilities associated with your account. You must immediately notify WebAssign® of any unauthorized use of your account. In the event that you are a minor, WebAssign® reserves the right to provide access to your account to your parents, guardian or other authorized adult, upon such adult's request.

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Conduct

You may only access the Service for lawful purposes. You are solely responsible for the knowledge of and adherence to any and all laws, rules, and regulations pertaining to your use of the Service. You agree that you will not:

1. use the Service to commit a criminal offense or to encourage conduct that would constitute a criminal offense or give rise to a civil liability, or otherwise violate any local, state, Federal, or international law or regulation, including, but not limited to, export control laws and regulations;
2. upload, post, e-mail, or otherwise transmit any unlawful, threatening, libelous, harassing, defamatory, vulgar, obscene, pornographic, profane, or otherwise objectionable content;
3. disrupt the normal flow of communication or otherwise act in a manner that negatively affects other users' ability to engage in real-time exchanges; or
4. interfere with or disrupt the service or servers or networks connected to the services, or disobey any requirements, procedures, policies, or regulations of networks connected to the Service.

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