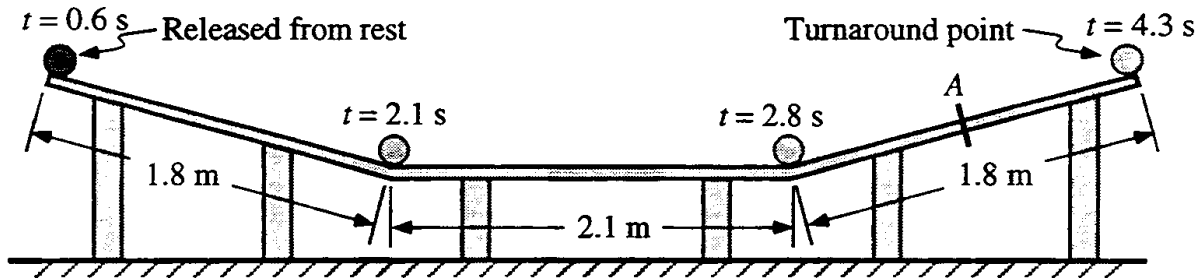
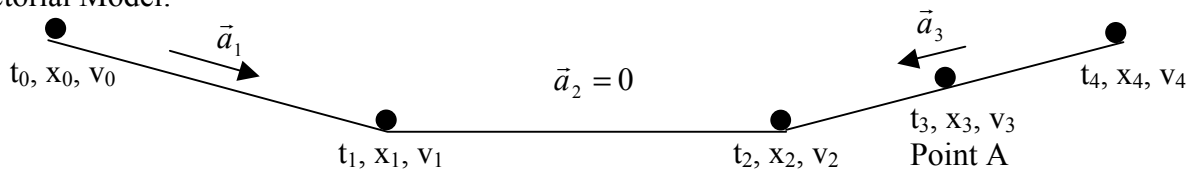


Problem 1 (Short Answer: 20 points) Make a motion diagram and a pictorial model for the following problem, but DO NOT SOLVE IT

Find the velocity and acceleration of the ball at point A. Assume friction is negligible.



Pictorial Model:



Known values:

$$t_0 = 0.6 \text{ s} \quad x_0 = 0 \text{ m}$$

$$v_0 = v_4 = 0 \text{ m/s}$$

$$t_1 = 2.1 \text{ s} \quad x_1 = 1.8 \text{ m}$$

$$t_2 = 2.8 \text{ s} \quad x_2 = 2.1 \text{ m}$$

$$v_1 = v_2 = v_{\text{max}}$$

$$t_4 = 4.3 \text{ s} \quad x_4 = 1.8 \text{ m}$$

Desired unknowns: v_3, a_3

Also need v_1

Motion Diagram:

