

Name: _____

Date: _____

1.1-1.3 Quiz
SPH 3U/4C

/10K

/16 A

Formulas

$$\vec{v}_{av} = \frac{\Delta \vec{d}}{\Delta t} \quad \text{OR} \quad \vec{v}_{av} = \frac{\vec{d}_2 - \vec{d}_1}{\Delta t} \quad \vec{a}_{av} = \frac{\Delta \vec{v}}{\Delta t} \quad \text{OR} \quad \vec{a}_{av} = \frac{\vec{v}_2 - \vec{v}_1}{\Delta t}$$

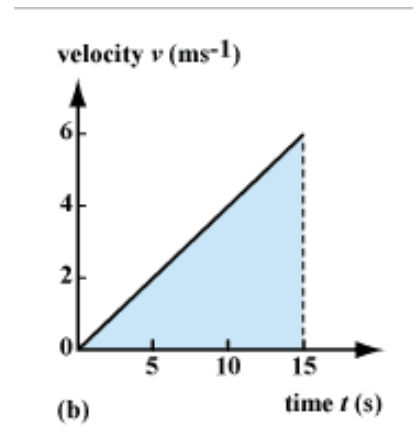
Multiple Choice: Circle the correct answer [1 K mark each]

1. The motion in the velocity-time graph to the right can be explained as:

- a) Constant velocity
- b) Constant speed
- c) Acceleration
- d) Deceleration

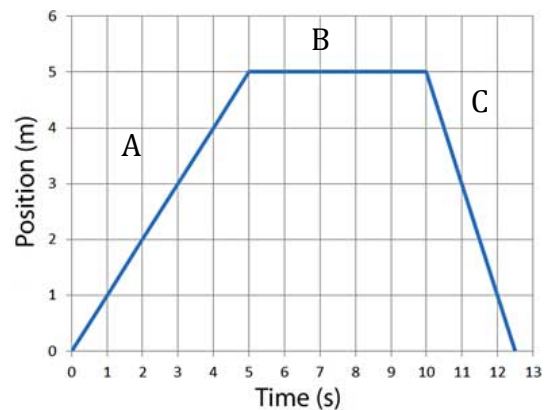
2. Which of the following is **not** a condition for uniform motion?

- a) Constant speed
- b) Constant acceleration
- c) Constant direction



3. For the position-time graph to the right, which of the segments is the object moving the fastest?

- a) A
- b) B
- c) C
- d) Impossible to tell



4. For the position-time graph to the right, in which of the segments is the object accelerating?

- a) A
- b) B
- c) C
- d) None

5. For the ticker tapes on the right, which tape was the cart moving the slowest?

- a) 1
- b) 2
- c) 3
- d) 4

1.

2.

3.

4.

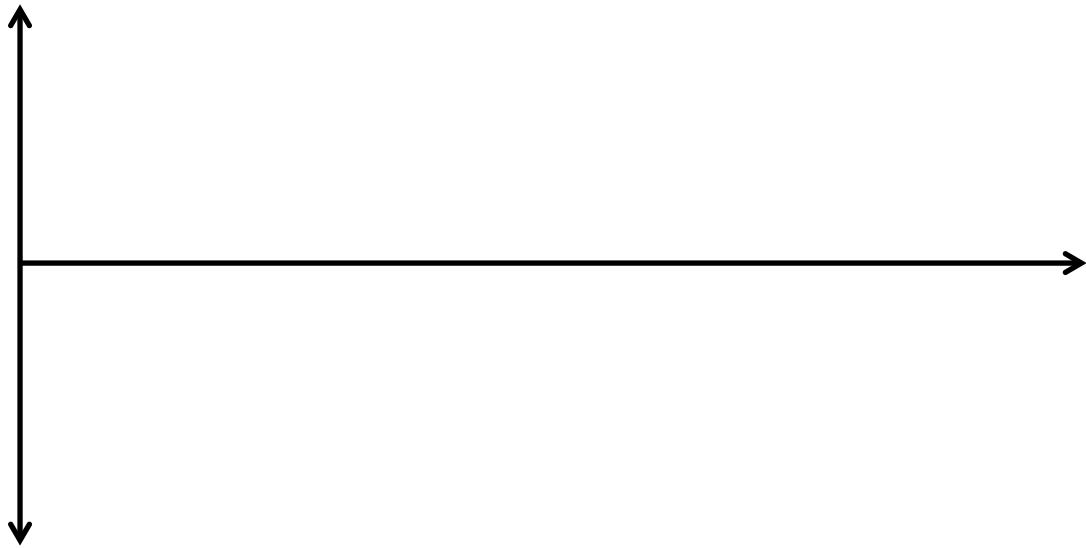
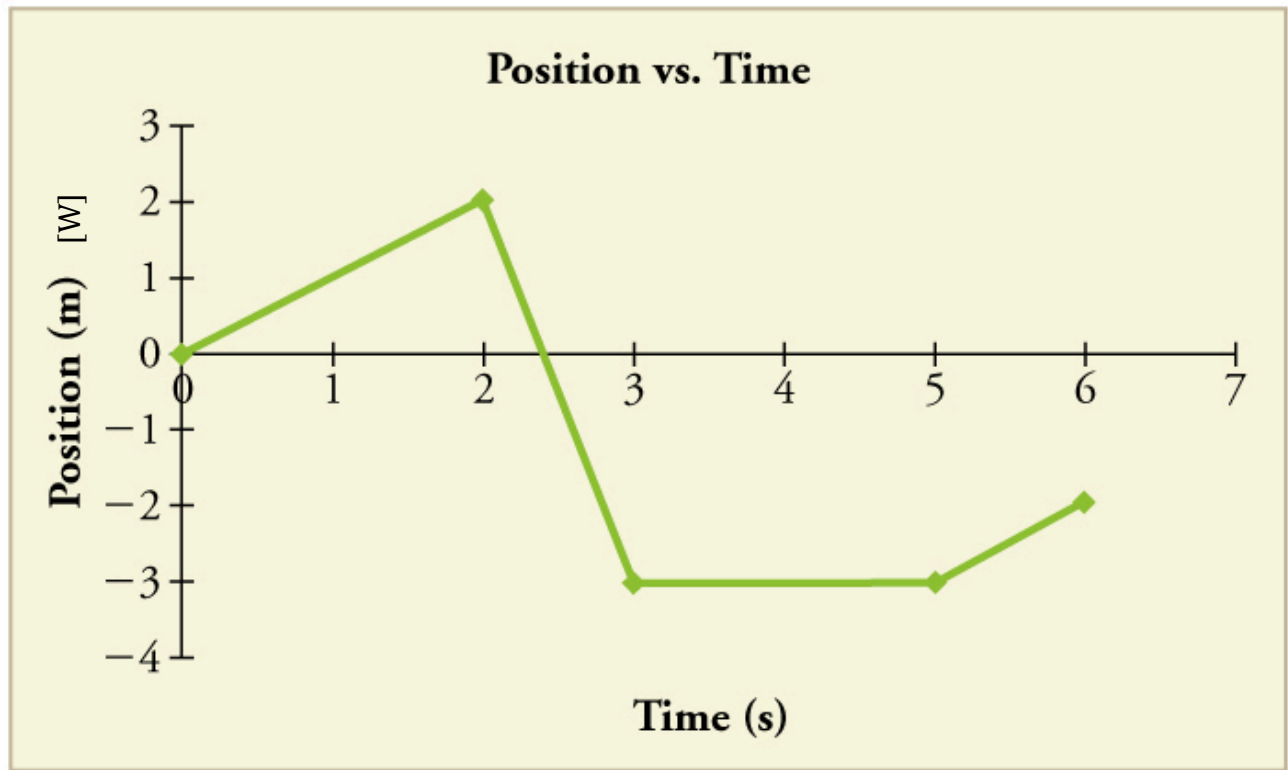
6. For the ticker tapes on the right, which tape took the longest to produce?

- a) 1
- b) 2
- c) 3
- d) 4
- e) All the same amount of time

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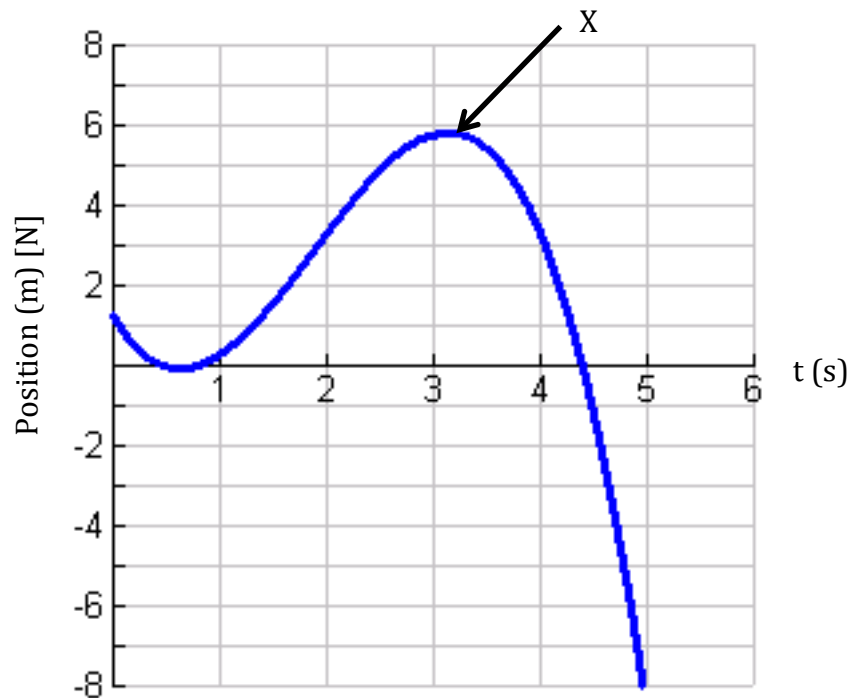
7. Sketch the velocity-time graph of the position-time graph below: [4K]
(Just a sketch, no need to calculate velocities)



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8. For the position-time graph below:



a) Calculate the average velocity between 2 and 4 seconds [2A]

b) Calculate the instantaneous velocity at 2 seconds [2A]

c) Describe the motion at point X. What is happening to the object? [1A]

d) Does the object experience uniform motion at any point? Explain. [1A]

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9. You start at home and walk 100m [N] to the grocery store. You then walk 600m [S] to the library. The entire trip takes 7 minutes.

a) What is your final position from home? [1A]

b) What is your average speed for the entire trip? [2A]

c) What is your average velocity for the entire trip? [2A]

10. How long would it take an ant to walk 100m? Assume an ant can travel at an average speed of -0.05m/second. [1A]

11. Mr. Notten's car can go from 0 to 100 km/h in 4.2 seconds. Calculate the average acceleration in m/s^2 . [2A]

12. A ball rolling down a hill has an average acceleration of 3.7m/s^2 [down]. How much will the ball increase its velocity in 5 seconds? [2A]