

Linear Motion In Class Test Review

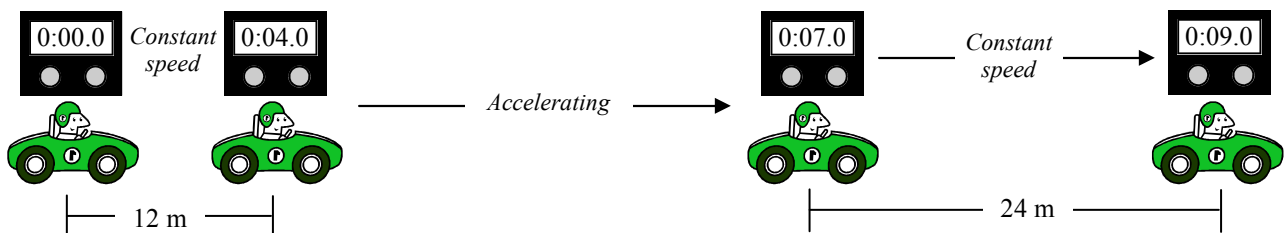
This is NOT the homework!!!

<p>1) Circle the bigger one:</p> <p>A. Centimeters or megameters? B. Micrometers or millimeters? C. Kilometers or megameters? D. Centimeters or millimeters? E. Millimeters or kilometers? F. Meters or kilometers?</p>	<p>2) Three people record the mass of an object. They record 123.5 g, 123.6 g; and 123.4 g. The actual mass of the object is 126.2 g. A) Is the measuring device accurate? B) Is the device precise? C) What would you do to the device?</p>
<p>3) Convert 4300 micrometers to centimeters. <i>(Hint: convert to meters, then to cm.)</i></p>	<p>4) Convert 18 m/s to ft per min.</p>
<p>5) An object moves 120 m in 15 seconds. Calculate the object's speed.</p>	<p>6) An object moves 18 m/s. How long does it take the object to move 154 m?</p>

- 7) A car begins at a stop sign. It ends up going 100 m in 6.5 seconds. Find the car's acceleration.
Variables: Equation and solve:

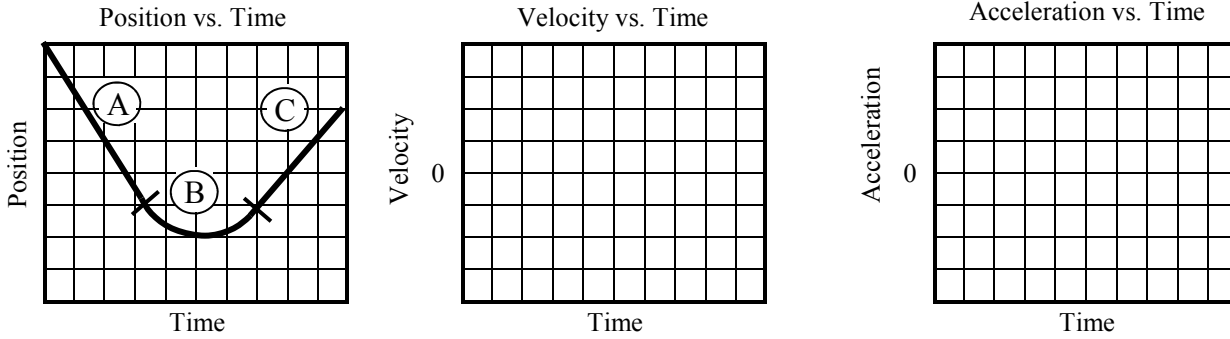
- 8) Speed or velocity: A person walks 0.5 m/s to the east.
 9) Scalar or vector: A car is moving 30 m/s.
 10) When an object is in freefall, what is its acceleration?
 11) What is the acceleration of a full bottle of water dropped from a desk?
 12) What is the acceleration of an empty bottle of water dropped from a desk?
 13) An object dropped from a 4 m tall roof. $\Delta y = \underline{\hspace{2cm}}$.
 14) A person throws a ball into the air at 6 m/s from the ground. When it comes back, $v_f = \underline{\hspace{2cm}}$ and $\Delta y = \underline{\hspace{2cm}}$.
 15) "Sitting on the dock of the bay, wasting time" with my sister. I get bored and push her off the 2 m dock. How fast is she moving when she belly flops into the water? (And more importantly how badly is she going to hurt me when she catches me?)
Variables: Equation: Solve:

- 16) In the graphic below, the car is at constant speed between the first two positions and between the last two positions. Between the middle two positions it is accelerating. Calculate its acceleration.



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- 17) To transfer a line from a position graph to a velocity graph you must find the slope of the line.
- 18) Use the three motion graphs below to answer the following questions.
- A. In the first graph below, the y variable is = Position and x = Time.
- B. In the second graph below, y = Velocity and x = Time.
- C. In the third graph below, y = Acceleration and x = Time.
- 19) What does the slope of the below graphs tell us: Graph 1: _____; Graph 2: _____; Graph 3: _____.
- 20) Transfer the following graphs.



- 21) In $y = mx + b$, which letters are constants (don't change) for a particular line?
- 22) In $y = mx + b$, which letters are variables (change) for a particular line?
- 23) Use the graph at the right to answer the following.
- A. Give the linear equation for the graph at the right.
- B. Where is the object on the graph at 4.2 seconds?
- C. What is the initial position of the graph?
- D. What is the speed of the graph?
- E. Transfer the position graph to the velocity and acceleration graphs below.

