

Begin from the cell #1 and find the answer. To advance in the circuit, hunt for your answer and call that cell #2. Proceed until you complete the circuit. Show your work in the boxes provided. (assume all units are in s, m, m/s, or m/s²):

<p>Answer: -20</p> <p>#1_____ The rate of change of position with respect to time is called _____.</p>	<p>Answer: Slope of the secant line connecting the endpoints of the interval.</p> <p>#_____ An object's position is given as $x = 3.0t + 2.0t^2 + 3.0t^3 + 2.0$. Find the velocity of this object when $t=3.0$ s</p>
<p>Answer: 0</p> <p>#_____ An object's velocity is given as $v = 3.0 + 4.0t^3 - 10.0t^4$ Find the acceleration of this object when $t=2.0$s</p>	<p>Answer: $\frac{dx(t)}{dt}$</p> <p>#_____ An object's acceleration is given as $a = 3.0 + 6.0t^2$ If this object starts from rest, how fast will it be traveling at $t=4$s?</p>
<p>Answer: tangent line to the function at this point.</p> <p>#_____ An object's velocity is given as $v = 2.0 + 4.0t - 6.0t^2$ if this object has an initial position of 3.0m, find the object's position when $t=2.0$ s.</p>	<p>Answer: 1</p> <p>#_____ An object's velocity is given as $v = 2.0 + 4.0t - 6.0t^2$ if this object has an initial position of 3.0m, find the object's velocity when $t=2.0$ s.</p>
<p>Answer: -14</p> <p>#_____ An object's velocity is given as $v = 2.0 + 4.0t - 6.0t^2$ if this object has an initial position of 3.0m, find the object's acceleration when $t=2.0$ s.</p>	<p>Answer: velocity</p> <p>#_____ Given a particle's position is $x = -t^2 + 3t$, find how long does it take to come to a momentary stop.</p>

<p>Answer: 1.5</p> <p># ____ Given a particle's position is $x = t^2 - 3t$, find its average velocity over $[2,4]$</p>	<p>Answer: 96</p> <p># ____ Given a particle's position is $x = t^2 - 3t$, find its velocity at $t = 4$</p>
<p>Answer: -1</p> <p># ____ Given a particle's position is $x(t)$, its velocity $v(t)$ is</p>	<p>Answer: -27</p> <p># ____ To find the average rate of change of a function over an interval you find the _____</p>
<p>Answer: 5</p> <p># ____ The derivative of a function at a point gives the slope of the _____.</p>	<p>Answer: 3</p> <p># ____ Given a particle's position is $x = -t^2 + 2t$, find the total distance it travels over $[0,2]$</p>
<p>Answer: 2</p> <p># ____ Given a particle's position is $x = -t^2 + 2t$, find its displacement over $[0,2]$</p>	<p>Answer: 140</p> <p># ____ Given a particle's position is $x = -t^2 + 3t$, find its average velocity over $[0,2]$</p>