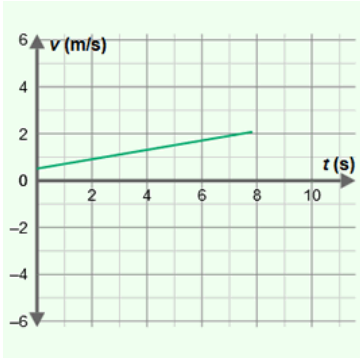


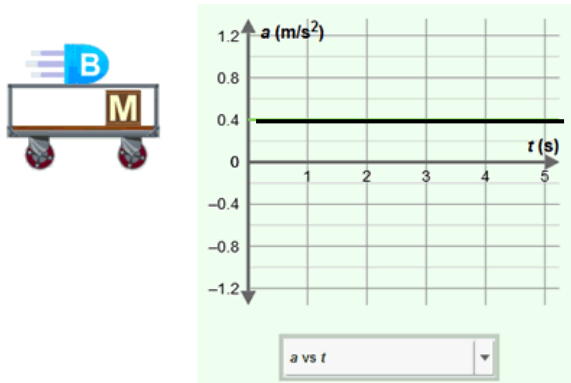
## FAN CART GIZMO: 2<sup>ND</sup> LAW ASSESSMENTS

1. According to the graph of  $v$  vs.  $t$  below, what was the initial velocity of the cart?



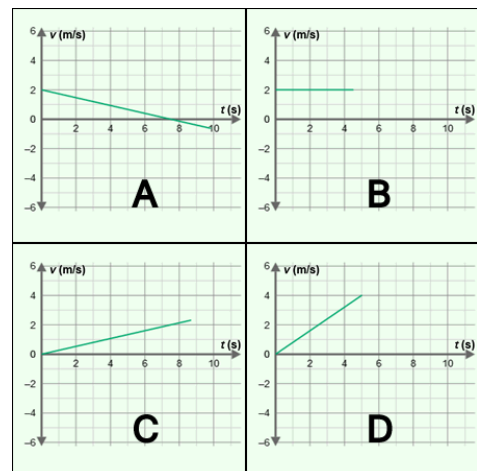
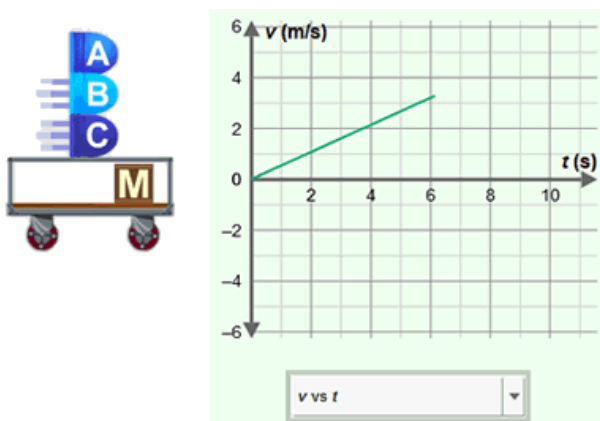
- a) 0.0 m/s  
 b) .5 m/s  
 c) 1.0 m/s  
 d) 1.5 m/s

2. The acceleration of the cart shown below (.4 m/s/s) is represented in the given graph. If a second block is added to the cart, what might be the resulting acceleration?

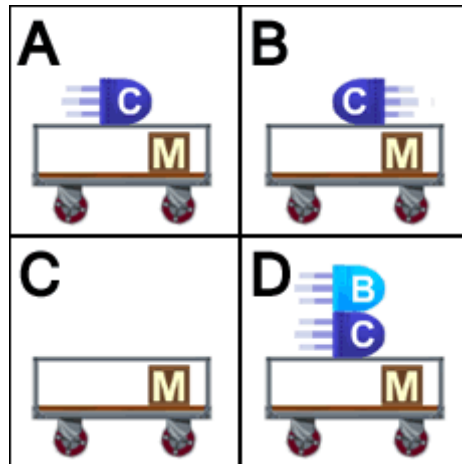
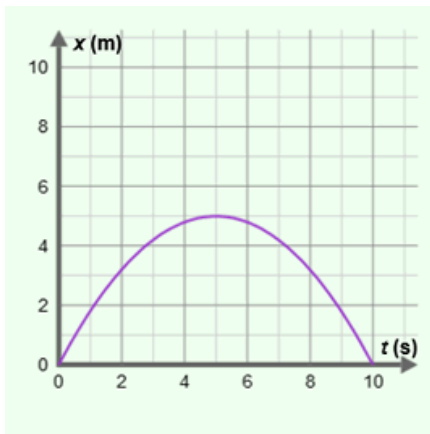


- a) 0 m/s/s  
 b) 0.27 m/s/s  
 c) .4 m/s/s  
 d) .53 m/s/s

3. A cart is set up as shown below, with three fans directed to the left and two of the fans running. The motion of the cart is represented by the  $v$  vs  $t$  graph shown. If the experiment were repeated with all three fans running, what might the resulting  $v$  vs  $t$  graph look like?



4. Which of the following cart configurations could produce the  $x$  vs  $t$  graph shown?



5. A cart with one fan on it blowing to the left and carrying one block produces the  $x$  vs  $t$  graph shown. If this cart were carrying three blocks instead of one, with the fan still blowing the same direction, what could the  $x$  vs  $t$  graph look like?

