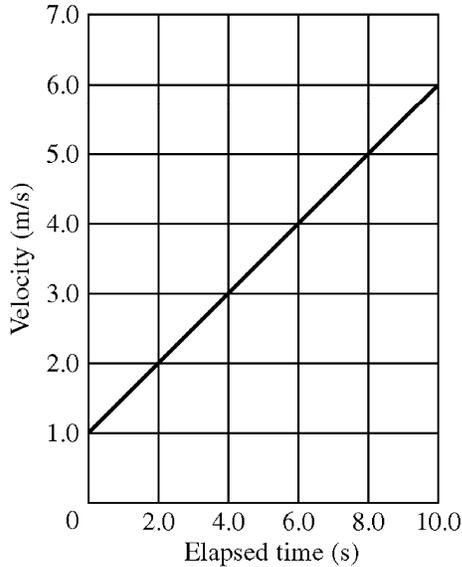


**Chapter 2 Review****Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

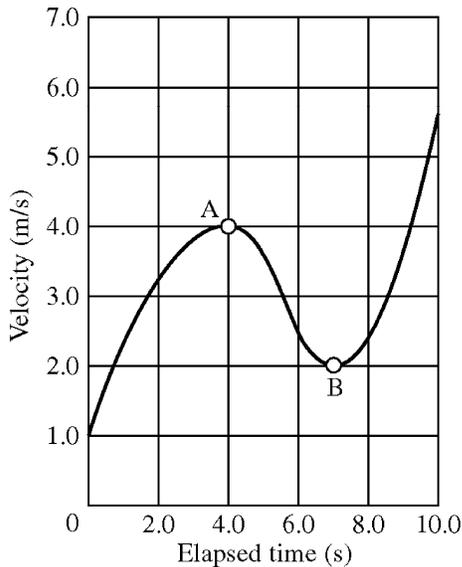
- \_\_\_\_\_ 1. What is the speed of an object at rest?  
a. 0.0 m/s  
b. 1.0 m/s  
c. 9.8 m/s  
d. 9.81 m/s
- \_\_\_\_\_ 2. Which of the following is the expression for average velocity?  
a.  $v_{avg} = \frac{\Delta x}{\Delta t}$   
b.  $v_{avg} = \frac{\Delta t}{\Delta x}$   
c.  $v_{avg} = \Delta x \cdot \Delta t$   
d.  $v_{avg} = \frac{v_i + v_f}{2}$
- \_\_\_\_\_ 3. In addition to displacement, which of the following must be used for a more complete description of the average velocity of an object?  
a.  $m$   
b.  $kg$   
c.  $\Delta t$   
d.  $\Delta x$
- \_\_\_\_\_ 4. A dolphin swims 1.85 km/h. How far has the dolphin traveled after 0.60 h?  
a. 1.1 km  
b. 2.5 km  
c. 0.63 km  
d. 3.7 km
- \_\_\_\_\_ 5. A hiker travels south along a straight path for 1.5 h with an average velocity of 0.75 km/h, then travels south for 2.5 h with an average velocity of 0.90 km/h. What is the hiker's displacement for the total trip?  
a. 1.1 km to the south  
b. 2.2 km to the south  
c. 3.4 km to the south  
d. 6.7 km to the south
- \_\_\_\_\_ 6. Acceleration is  
a. displacement.  
b. the rate of change of displacement.  
c. velocity.  
d. the rate of change of velocity.
- \_\_\_\_\_ 7. Which of the following is the expression for acceleration?  
a.  $a = \frac{\Delta t}{\Delta v}$   
b.  $a = \frac{\Delta v}{\Delta t}$   
c.  $a = \Delta t \cdot \Delta v$   
d.  $a = \frac{v_i - v_f}{t_i - t_f}$
- \_\_\_\_\_ 8. When velocity is positive and acceleration is negative, what happens to the object's motion?  
a. The object slows down.  
b. The object speeds up.  
c. Nothing happens to the object.  
d. The object remains at rest.



9.

What does the graph above illustrate about acceleration?

- The acceleration is constant.
- The acceleration is zero.
- The acceleration decreases.
- There is not enough information to answer.



10.

What does the graph above illustrate about acceleration?

- The acceleration varies.
- The acceleration is zero.
- The acceleration is constant.
- The acceleration increases then becomes constant.

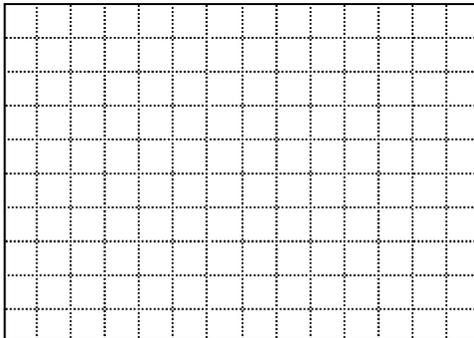
11. A toy car is given an initial velocity of 5.0 m/s and experiences a constant acceleration of 2.0 m/s<sup>2</sup>. What is the final velocity after 6.0 s?

- |             |           |
|-------------|-----------|
| a. 10.0 m/s | c. 16 m/s |
| b. 12 m/s   | d. 17 m/s |



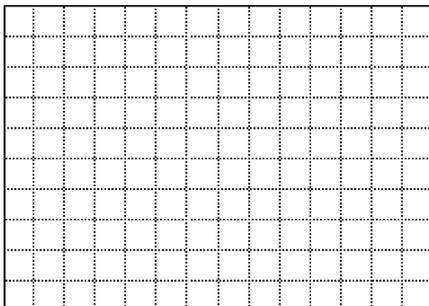


35. Why is the direction of free-fall acceleration negative?
36. What is the acceleration of an object thrown upward? What is its acceleration as it free falls?



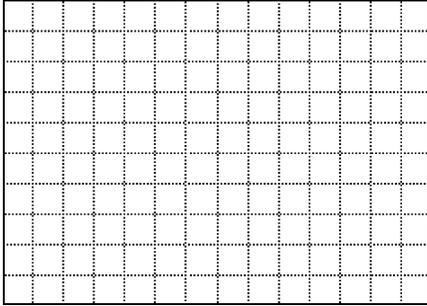
<u>Displacement (m)</u>	<u>Time (s)</u>
1.0	2.0
2.0	4.0
3.0	6.0
4.0	8.0
5.0	10.0

37. Construct a graph of position versus time using the data in the table above. What value is represented by the slope of a graph? Find the slope between  $\Delta t = 1$  s and  $\Delta t = 2$  s. Be sure to use appropriate SI units.



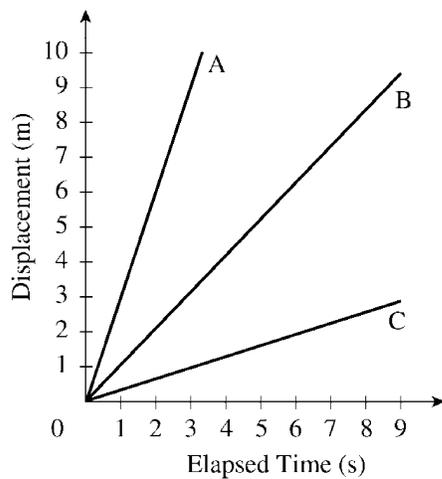
<u>Displacement (m)</u>	<u>Time (s)</u>
2.0	0.0
4.0	6.0
6.0	10.0

38. Construct a graph of position versus time using the data in the table above. What value is represented by the slope of a graph? Find the slope between  $\Delta t = 1$  s and  $\Delta t = 2$  s. Be sure to use appropriate SI units.



39.

A motorized scooter starts from rest and accelerates for 4 s at  $2 \text{ m/s}^2$ . It continues at a constant speed for 6 s. Graph velocity versus time to describe this motion.

**Problem**

40. The graph above shows displacement versus time. What is the average velocity for line A?
41. The graph above shows displacement versus time. What is the average velocity for line B?
42. The graph above shows displacement versus time. What is the average velocity for line C?
43. A pair of spectacles are dropped from the top of a 32.0 m high stadium. A pen is dropped 2.0 s later. How high above the ground is the pen when the spectacles hit the ground? (Disregard air resistance,  $g = 9.81 \text{ m/s}^2$ .)