Directions: Answer the following questions on the lines provided.

1. What is acceleration?

2. When is an object accelerating?

3. What is the difference between positive and negative acceleration?

4. State in words how acceleration is calculated.

5. Give two ways the unit for acceleration can be written.

6. What does the slope of a velocity-time graph indicate?

7. An inline skater traveling in a straight line goes from 3 m/s to 9 m/s in 3 s. What is the acceleration?

Directions: On the lines provided, indicate what kind of acceleration is shown in the following graphs.

8. 

9. 

10. 

Motion 25
Directions: Complete the concept map using the terms below.

velocity  position  speed  direction

An object's acceleration
is its rate of change of

1.

which depends on its

2.  and  4.

which is its rate of change of

3.

Directions: Circle the term in parentheses that correctly completes the sentence.

5. As a car follows a bend in the road going to the left, its centripetal acceleration is to the (right/left).

6. The greater a boulder's mass, the (greater/less) inertia it has.

7. Displacement depends on an object's distance and (speed/direction) compared to a starting point.

8. An automobile that slows down when approaching a stop sign has (negative, positive) acceleration.
Part A. Vocabulary Review

Directions: Write the terms that match each description below in the spaces provided. The boxed letters will complete the sentence in number 13.

1. acceleration toward the center of a curved path is called ____ acceleration.
2. occurs when an object's velocity decreases (2 words).
3. theory that describes movement of land masses (2 words)
4. movement of a stationary object (2 words)
5. name for the slant of a line on a graph
6. distance divided by time
7. total distance divided by total time (2 words)
8. distance and direction of an object from its starting point
9. product of an object's mass and velocity
10. measure of how far an object has moved
11. speed and direction of motion
12. rate of change of position at a specific point in time (2 words)
13. The rate of change in velocity is called ____________________________.
I. Testing Concepts

Directions: Write the letter of the correct term from Column II to match the definitions in Column I.

<table>
<thead>
<tr>
<th>Column I</th>
<th>Column II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. the amount of matter in an object</td>
<td>a. momentum</td>
</tr>
<tr>
<td>2. the product of an object's mass and velocity</td>
<td>b. mass</td>
</tr>
<tr>
<td>3. the speed of an object and the direction of its motion</td>
<td>c. distance</td>
</tr>
<tr>
<td>4. rate of change of the velocity of an object</td>
<td>d. displacement</td>
</tr>
<tr>
<td>5. a measure of how far an object has moved</td>
<td>e. speed</td>
</tr>
<tr>
<td>6. the rate of change in position at a given point in time</td>
<td>f. average speed</td>
</tr>
<tr>
<td>7. the distance and direction an object moves from its starting point</td>
<td>g. instantaneous speed</td>
</tr>
<tr>
<td>8. the total distance an object travels divided by the time of travel</td>
<td>h. velocity</td>
</tr>
<tr>
<td>9. the rate of change of an object's position</td>
<td>i. acceleration</td>
</tr>
<tr>
<td>10. any change over time</td>
<td>j. changing</td>
</tr>
<tr>
<td>11. An object that is neither speeding up nor slowing down travels at a</td>
<td>k. constant speed</td>
</tr>
<tr>
<td>rate</td>
<td>l. rate</td>
</tr>
<tr>
<td>12. A graph with distance on the vertical axis and time on the</td>
<td>m. distance-time graph</td>
</tr>
<tr>
<td>horizontal axis is called a</td>
<td></td>
</tr>
<tr>
<td>13. When an object is accelerating, its speed is</td>
<td></td>
</tr>
</tbody>
</table>