Chapter 2 Summary Pre-Test

1) A skier starting from rest skis straight down a slope 50. meters long in 5.0 seconds. What is the magnitude of the acceleration of the skier?
   A) 4.0 m/s²  B) 20. m/s²  C) 9.8 m/s²  D) 5.0 m/s²

2) A rocket initially at rest on the ground lifts off vertically with a constant acceleration of \(2.0 \times 10^1\) meters per second². How long will it take the rocket to reach an altitude of \(9.0 \times 10^3\) meters?
   A) \(4.5 \times 10^2\) s  B) \(9.0 \times 10^2\) s  C) \(3.0 \times 10^1\) s  D) \(4.3 \times 10^1\) s

3) Which graph best represents the motion of an object whose speed is increasing?
   A) ![Graph A]  B) ![Graph B]  C) ![Graph C]  D) ![Graph D]

4) A rock falls from rest off a high cliff. How far has the rock fallen when its speed is 39.2 meters per second? [Neglect friction.]
   A) 19.6 m  B) 123 m  C) 78.3 m  D) 44.1 m

5) Approximately how far will an object near Earth's surface fall in 3.0 seconds?
   A) 9.8 m  B) 29 m  C) 44 m  D) 88 m

6) The displacement-time graph below represents the motion of a cart initially moving forward along a straight line.

![Displacement vs. Time Graph]

During which interval is the cart moving forward at constant speed?
   A) \(CD\)  B) \(DE\)  C) \(BC\)  D) \(AB\)

7) An airplane originally at rest on a runway accelerates uniformly at 6.0 meters per second² for 12 seconds. During this 12-second interval, the airplane travels a distance of approximately
   A) 220 m  B) 860 m  C) 72 m  D) 430 m
8) A basketball player jumped straight up to grab a rebound. If she was in the air for 0.80 second, how high did she jump?
   A) 1.2 m  B) 3.1 m  C) 0.78 m  D) 0.50 m

9) The graph below represents the motion of an object.

According to the graph, as time increases, the velocity of the object
   A) increases  B) remains the same  C) decreases
Chapter 2 Pre-Test Part II

Directions: Answer the following questions using the rubric below as a guide.

<table>
<thead>
<tr>
<th>Writing a correct equation for the problem</th>
<th>1 point</th>
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<tbody>
<tr>
<td>Plug numbers into equation</td>
<td>1 point</td>
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<tr>
<td>Units on ALL numbers in work</td>
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<td>Solving for Correct Final Answer with unit</td>
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<td><strong>Total point per problem</strong></td>
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1. A pilot stops a plane in 484 m using a constant acceleration of - 8.0 m/s². How fast was the plane moving before braking began? (assume x-direction motion only)

2. Mr. O’Leary throws his Wife’s cat, Dory, off the roof of City Hall.
   a. If people hear Dory Meow-screaming for 4 seconds, how fast will she be travelling after this time? (assume y-direction motion only)
   b. How far did Dory fall during this time?

3. Roscoe Parrish has a vertical leap of 1.2 m.
   a. What must Roscoe’s takeoff velocity be to reach this height?
   b. What is Roscoe’s hang time? (total time in the air?)