Physics
Acceleration, Form: A

Name: _____
Date: _____
Period: _____
Primary Peer Reviewer: _____

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Section 1. Multiple Choice

Choose the best answer to each question.

1. What is the best description of acceleration?
   (a) How fast an object is traveling.
   (b) How far an object travels in a certain amount of time.
   (c) How much an object slides or spins.
   (d) Speeding up, slowing down, or changing direction.

2. NASA's Aries 1 Rocket can go from 0 m/s to 445 m/s in 57 seconds. What is its acceleration?
   (a) 0.016 m/s^2
   (b) 7.807 m/s^2
   (c) 25365 m/s^2
   (d) There is not enough information to solve this problem.

3. A man rolls a ball up a hill with an initial speed of 2 m/s. 10 seconds later, it is traveling at 5.2 m/s down the hill. What is the ball's acceleration?
   (a) -0.72 m/s^2
   (b) 0.32 m/s^2
   (c) 52 m/s^2
   (d) 10791.859 m/s^2

Section 2. Multiple Correct Multiple Choice

For the following question, ***choose two*** *correct answers. No credit will be given for incorrect or partially correct answers. Mark* ***both*** *answers clearly.*

4. Which of the following objects are **NOT** accelerating?
   (a) A car that is stopped at a red light.
   (b) An airplane that is turning.
   (c) A racecar as it begins a race.
   (d) A boat traveling at a constant speed, in a straight line, on a calm lake.
   (e) A coin that is dropped and falls to the ground.

Section 3. Free Response

5. A penny is dropped from the top of a 30-meter tall building. It hits the ground 2.473 seconds later.

   (a) What is the average speed of the penny?

   (b) What is the final velocity of the penny?

   (c) What is the acceleration of the penny?

6. Your 12-year old little brother hears you mention that an object is "accelerating at 4 meters per second per second," and wants to know what this means. In a clear, coherent paragraph of at least 5 sentences, explain to him what it means for an object to "accelerate at 4 meters per second per second."

Answer Key for Exam A

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Choose the best answer to each question.

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