**Acceleration** (p. 372 – 377)

**I. Acceleration & Motion**

**1. Define the term acceleration.**

Acceleration –

**2. Which of the following produces acceleration?**

a. A change in speed.

b. A change in direction.

c. A change in both (speed & direction).

d. None of the above.

**3. Acceleration is the result of increases or decreases in speed.**

Circle One : True False

**4. Define the term centripetal acceleration.**

Centripetal Acceleration –

**5. Why is a horse carousel, which is moving at a constant speed, accelerating?**

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**8. What is the direction of acceleration when moving with circular motion?** *(Not in the book.)*

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**II. Calculating Acceleration**

**1. Write out the equation to determine acceleration.**

Acceleration = *a* =

**2. The SI units for acceleration are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**3.** **A skateboarder begins down a ramp at a speed of 1.0 m/s. After 3.0 seconds, her speed**

**has increased to 4.0 m/s. Calculate her acceleration.**

a. 1.0 meter / second2

b. -3.0 meters / second2

c. 5.0 meters / second2

d. -9.8 meters / second2

**Is this considered to be positive or negative acceleration?**

Circle One : Positive Acceleration Negative Acceleration

**4. A mountain biker approaches a hill 10 seconds into her race. She starts up the hill at a**

**speed of 5 m/s and she stops at the top of the hill at a time of 20 seconds into the race at a**

**speed of 0 m/s. Calculate her acceleration.**

a. -0.5 meter / second2

b. 1.0 meters / second2

c. -2.0 meters / second2

d. 2.0 meters / second2

**Is this considered to be positive or negative acceleration?**

Circle One : Positive Acceleration Negative Acceleration

**III. Graphing Accelerated Motion**

**1. What are three ways to maintain zero acceleration?**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2. How can a rollercoaster exhibit constant acceleration?**

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**3.** **What is the object doing according to the following graphs. *The vertical y-axis represents***

***speed and the horizontal x-axis represents time.***

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**4.** **What is the object doing according to the following graph. *The vertical y-axis represents***

***speed and the horizontal x-axis represents time.***

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