**Newton’s 1st & 2nd Laws** (p. 397 – 402)

**I. Newton’s First Law**

**1. Who developed a set of rules explaining the effects of forces on motions of objects?**

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**2. State Newton’s 1st Law of Motion** *(Law of Inertia).*

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**3. Define the term inertia.**

Inertia –

**4. Which statement is false concerning inertia?**

a. An object in motion stays constant in speed an direction unless acted upon buy a force.

b. The velocity of an object remains constant unless a force changes it.

c. An object at rest, tends to stay at rest, unless acted upon by a force.

d. The greater the mass of an object, the less its inertia.

**5. Why is inertia not considered a force.** *(Not in the book.)*

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**6.** **According to Newton’s first law of motion, an object’s state of motion does not change as**

**long as the net force acting on it is zero.**

Circle One : True False

**7. The law of inertia states that an object in motion will eventually slow down and come to a**

**complete stop if it travels far enough in the same direction.**

Circle One : True False

**8. List three examples that illustrate Newton’s First Law Of Motion.**

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

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**9. Why does a person in a car crash slam into the dashboard and windshield when the car**

**stops abruptly?**

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**II. Newton’s Second Law**

**1.** **State Newton’s 2nd Law of Motion*.***

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**2. Newton’s 2nd Law of Motion examines the relationship between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ &**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**3.** **Write the equation that illustrates Newton’s 2nd Law of Motion in terms of net force.**

Net Force = *Fnet* =

**4. The greater an applied force, the greater the acceleration.**

Circle One : True False

**5. When exerting the same force, which has greater acceleration?**

Circle One : Baseball (0.14 kg) Softball (0.20 kg)

**6.** **Doubling the force on an object, quadruples the acceleration.**

Circle One : True False

**7.** **List three examples that illustrate Newton’s Second Law Of Motion.**

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

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**8.** **The SI unit for force is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**9. What is one pound equal to in newtons?**

1.0 lb. = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ N

**10. A net force of 100 N on an object by two people equals 100 N by one person on the**

**same object.**

Circle One : True False

**11.** **Write the equation that illustrates Newton’s 2nd Law of Motion in terms of acceleration.**

Acceleration = *a* =