**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.**

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 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.**

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 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* =