Name:

**Force the Blank!**

1. The number of forces required for an interaction is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Newton’s Third Law states that whenever one object exerts a force on a second object, the second object exerts a force on the first object with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ magnitude but in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ direction.
3. Three examples of vectors include \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Three examples of scalar quantities include \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Acceleration always points in the same direction as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. When acceleration points in the same direction as the velocity of a car, the car’s speed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . When acceleration points in the opposite direction as the velocity, the car’s speed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. When the acceleration points at a right angle to the velocity the car’s speed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but the car does \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If the acceleration points at an angle (not 0◦or 90◦) relative to the velocity, then both the car’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change.
7. When hitting a nail with a hammer, if the action is defined as the hammer hitting the nail, then the reaction is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hitting the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. A hammock stretched tightly between a pair of trees is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ likely to break than one that sags more when someone sits in it.
9. Two vectors that add together to equal zero point in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ directions and have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ magnitudes.