

How many of these questions can you answer given needed formulas?

- 1) The tendency of an object to resist change in its state of motion is called
a) weight. b) momentum. c) inertia. d) energy.
- 2) A force is necessary to a) start an object moving. b) stop an object from moving.
c) cause a change in the direction of a moving object. d) all of the above answers.
- 3) Forces that are “balanced” are a) equal in magnitude and opposite in direction. b) equal
in magnitude and in the same direction. c) unequal in magnitude and opposite in direction.
d) unequal in magnitude and in the same direction.
- 4) When forces are “balanced” the motion of an object
a) is decreased. b) is increased. c) does not change. d) is completely stopped.
- 5) An ice skater falls, slides, and comes to a rest position on the ice. The reason that she
stopped moving is evidence of a) balanced forces at work. b) Newton’s second law of
motion. c) energy of position. d) the ice exerting a frictional force on her body.
- 6) According to Newton’s second law of motion; if we know the mass of an object, and the
force acting on it, we can then determine the object’s
a) exact position. b) weight. c) average velocity. d) acceleration.
- 7) Calculate the force needed to accelerate a 68 kg person to 2.5 m/s^2 from a rest position.
- 8) What is the “weight” of a 64 kg person?
- 9) If a 1.6×10^3 kg front-wheel drive automobile is pulled by its engine with a force of 3,600 N
when at rest.
a) What will be the acceleration of this car?
b) If the acceleration is to be 4 m/s^2 , then what force from the engine would be necessary to
accelerate the car?
- 10) The fact that a jet airplane moves in a direction opposite to that of its fuel exhaust is evidence
of which of Newton’s laws of motion?
a) law of inertia b) law of interaction c) law of acceleration d) law of gravitation
- 11) Which of Newton’s laws of motion explains why a cannon rolls backward after it is fired?
- 12) Newton’s third law of motion describes a) motion when an balanced force acts on an
object. b) motion when an unbalanced force acts on an object. c) why forces act in pairs.
d) the amount of force needed to accelerate a specific mass.

- 13) According to Newton's third law, for every "action" the "reaction" is
- a)* equal in magnitude and in the same direction.
 - b)* equal in magnitude and opposite in direction.
 - c)* unequal in magnitude and opposite in direction.
 - d)* unequal in magnitude and in the same direction.
- 14) According to Newton's "Universal Law of Gravitation," the gravitational attraction between any two objects
- a)* increases with increasing mass.
 - b)* decreases with increasing distance.
 - c)* decreases with decreasing distance.
 - d)* decreases with increasing mass.
 - e)* both answers a & b
 - f)* both answers c & d