Assignment: newton

1 A person is standing on a bathroom scale in an elevator car. If the scale reads a value greater than the weight of the person at rest, the elevator car could be moving

1 downward at constant speed
2 upward at constant speed
3 downward at increasing speed
4 upward at increasing speed

2 A man standing on a scale in an elevator notices that the scale reads 30 newtons greater than his normal weight. Which type of movement of the elevator could cause this greater-than-normal reading?

1 accelerating upward
2 accelerating downward
3 moving upward at constant speed
4 moving downward at constant speed

3 A man weighs 900 newtons standing on a scale in a stationary elevator. If some time later the reading on the scale is 1200 newtons, the elevator must be moving with

1 constant acceleration downward
2 constant speed downward
3 constant acceleration upward
4 constant speed upward

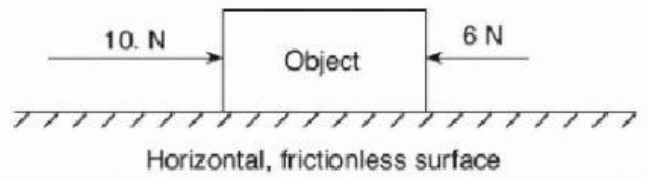
4 A student weighing 500. newtons stands on a spring scale in an elevator. If the scale reads 520. newtons, the elevator must be

1 accelerating upward
2 accelerating downward
3 moving upward at constant speed
4 moving downward at constant speed

5 A student is standing in an elevator that travels from the first floor to the tenth floor of a building. The student exerts the greatest force on the floor of the elevator when the elevator is

1 accelerating upward as it leaves the first floor
2 slowing down as it approaches the tenth floor
3 moving upward at constant speed
4 at rest on the first floor

6 Two forces act concurrently on an object on a horizontal, frictionless surface, as shown in the diagram below.



What additional force, when applied to the object, will establish equilibrium?

1 16 N toward the right
2 16 N toward the left
3 4 N toward the right
4 4 N toward the left

7 Which body is in equilibrium?

1 a satellite moving around Earth in a circular orbit
2 a cart rolling down a frictionless incline
3 an apple falling freely toward the surface of Earth
4 a block sliding at constant velocity across a tabletop

8 Which body is in equilibrium?

1 a satellite orbiting Earth in a circular orbit
2 a ball falling freely toward the surface of Earth
3 a car moving with a constant speed along a straight, level road
4 a projectile at the highest point in its trajectory

9 If the sum of all the forces acting on a moving object is zero, the object will

1 slow down and stop
2 change the direction of its motion
3 accelerate uniformly
4 continue moving with constant velocity