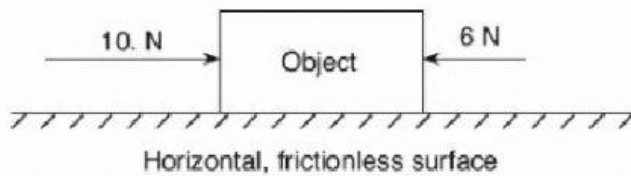


Assignment: newton

- 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