

Newton's Laws Practice Items

- A moving body with no net forces acting upon it will continue to move with constant...
 - speed
 - acceleration
 - velocity
 - more than one of the above is correct
- A block is at rest on an inclined plane. As the angle of incline is increased beyond the point at which the block begins to slide,
 - the normal force upon the block increases
 - the force of friction decreases
 - the force required to prevent sliding of the block decreases
 - the weight of the block decreases
- A man (mass 150 kg) is standing on a scale in an elevator which is dropping free fall. According to the scale, how much does he weigh? $g = 10 \text{ m/s}^2$
 - 150 N
 - 1500 N
 - 15 N
 - 0 N
- The force compelling an object to remain in uniform circular motion is called
 - the centripetal force
 - the reaction force
 - the centrifugal force
 - the equatorial force
- A man is standing on a scale in an elevator which is accelerating downwards at 6 m/s^2 . The scale registers 400 N. How much would the man normally weigh?
 - 150 N
 - 1000 N
 - 100 N
 - 800 N
- A 2 kg object travels with constant velocity of 5 m/s in a certain direction. An unknown force is applied to the object along that same direction. Ten seconds of constant application results in the object travelling at the speed of 25 m/s. What is the magnitude of the unknown force?
 - 10 N
 - 2.5 N
 - 1 N
 - 4 N
- If bullets are fired from an airplane in the direction of its motion...
 - the speed of the airplane will increase
 - the speed of the airplane will decrease
 - there will be no change in the speed of the airplane
 - the speed will change but the velocity will remain the same

8. Which of the following combinations of materials for the block and plane below would prevent the block from freely sliding under the influence of gravity?
- A. wood on wood ($\mu_s = .3$)
 - B. steel on concrete ($\mu_s = .9$)
 - C. steel on steel ($\mu_s = .7$)
 - D. more than one of the above are correct


