Practice questions on Newton's laws

If something increases in mass, it must also increase its:

W) kinetic energy
X) velocity
Y) inertia
Z) weight

To the first decimal place, if air resistance is ignored, a free-falling body near the surface of the Earth will increase its velocity at how many meters per second for each second of descent?

ANSWER:

Which one of the basic forces of the universe is typically considered to act over the longest distances?

ANSWER:

Linda carries a ten kilogram box 20 meters in 20 seconds and Ken does the same job in 10 seconds. The difference in the two jobs has most directly to do with:

W) total amount of work
X) power
Y) potential energy
Z) efficiency

At which of the following locations on Earth is the force of gravity the GREATEST:

W) at the center of the Earth
X) half-way from the center of the Earth to its surface
Y) at the surface of the Earth
Z) at the top of Mt. Everest

Which of the following terms is most often used by a physicist when describing the motion of an object that includes both its speed and direction:

W) momentum
X) rate
Y) distance per time
Z) velocity

Which of the following is most often used when computing the combined displacements in the movements of an object:

W) rate adjustment
X) vector addition
Y) total distance traveled
Z) instantaneous velocity

60) PHYSICAL SCIENCE *Short Answer* Name all of the following 4 choices that are vector quantities: charge; weight; acceleration; speed

ANSWER:

Ignoring friction, how many newtons of force were applied to a block of ice with a mass of 10 kilograms in order to accelerate the block across a frozen lake at 2 meters per second squared?

ANSWER:

On a planet with no atmosphere and a gravitational acceleration of 6 meters per second squared, how far will an object travel in free fall after 1 second if dropped from rest?

ANSWER:

Which of the following must remain unchanged to have a constant velocity for an object in motion:

W) speed only
X) friction and speed only
Y) speed and mass only
Z) speed and direction of travel

Consider a train traveling on a level straight track and the engineer applies the brakes. Which of the following would a physicist agree best describes the train's motion:

W) gaining momentum
X) accelerating
Y) equilibrating
Z) losing kinetic and gaining energy

Steven tries to move a 1000 newton crate and expends 200 calories of energy over 60 seconds. If he did not move the crate, how much work was accomplished?

ANSWER:

Albert is on a level field and walks 30 meters exactly east and then 40 meters exactly north. What is his total magnitude of displacement, in meters?

ANSWER: