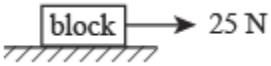
Name: _____ Practice Ph12 1-3

1. Which of the following are units for gravitational field strength?
   A. N/kg^2
   B. kg/m
   C. $kg \cdot m/s^2$
   D. N/kg

2. A wooden block is pulled across a level table by a horizontal force of 25 N as shown. If the coefficient of friction between the block and the table is 0.40 and the block is accelerating at 5.0 m/s^2, what is the mass of the wooden block?



3. An elevator weighing 12 000 N is accelerating upwards. The tension in the cable is 20 000 N and the frictional resistance to motion is 5 000 N. The unbalanced force on the elevator is
   A. 3 000 N up
   B. 13 000 N up
   C. 8 000 N up
   D. 27 000 N up
   E. 37 000 N up

4. An 80 kg man stands on a spring scale while accelerating upwards in an elevator. If the scale indicates that his "weight" is 980 N, what is the magnitude of the acceleration of the elevator in meters per second squared?
   A. 13
   B. 2.5
   C. 0.0080
   D. 12.5

5. A **frictionless** cart is pulled along a level table by a cord which passes over a pulley and which is attached to a hanging mass. During acceleration, the **tension** in the string will be:
   A. Equal to 9.8 m/s^2 times the hanging mass.
   B. Equal to 9.8 m/s^2 times the cart's mass.
   C. Continuously changing.
   D. Constant.

6. If there is no net force acting on a body, the acceleration MUST BE zero .
   A. True
   B. False

7. The inertia of an object is more closely related to its:
   A. volume
   B. density
   C. mass
   D. position
   E. shape

8. If the net force acting on a moving mass is zero, then the mass will:
   A. accelerate slightly.
   B. decelerate.
   C. continue at constant velocity.
   D. stop moving.

9. A man is pushing a 500 kg fridge across a level floor. He exerts a constant force of 200 N to maintain a velocity of 0.1 m/s. When he stops pushing the fridge, the fridge will come to rest in:
   A. 4.0 s
   B. 0 s
   C. 0.010 s
   D. 0.040 s
   E. 0.25 s

10. A 10 kg mass is lifted so that it rises with an upward acceleration of 2.0 m/s^2. (g = 10 N / kg) The net force exerted upwards is:
   A. 120 N
   B. 100 N
   C. 20 N
   D. 200 N
   E. 10 N

11. The force known as the normal force is
   A. equal to the tension force
   B. equal to the force of gravity
   C. perpendicular to a contact surface
   D. parallel to a contact surface

12. Which of the following are the units for gravitational field strength?
   A. N/m
   B. N
   C. $N \cdot m^2/kg^2$
   D. N/kg

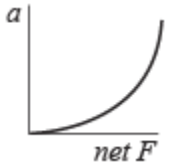
13. State whether mass and weight are scalar or vector quantities.

	MASS	WEIGHT
A.	Vector	Vector
B.	Vector	Scalar
C.	Scalar	Vector
D.	Scalar	Scalar

14. Which of the following graphs shows the relationship between acceleration and net force?

A. 

B. 

C. 

D.