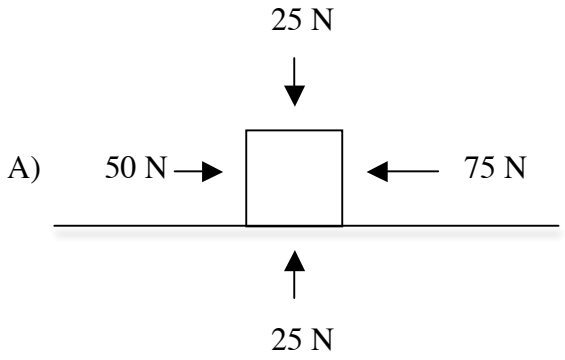
Motion and Force Review

Motion

1) Differentiate speed and velocity
2) What is the formula for speed?
3) Be able to solve problems using the speed formula.
   For Example. What is the speed if distance is 40 m and the time is 7 seconds?
4) Differentiate distance and displacement.
5) What is the formula for acceleration?
6) Be able to solve problems using the acceleration formula.
   A car was traveling 15 m/s and after 3 seconds it was traveling 10 m/s. What is the car's acceleration?
7) Differentiate positive acceleration, negative acceleration, and zero acceleration.
8) Using distance - time graph, be able to determine which line has the fastest speed(velocity).
9) The steeper the line on a distance - time graph, the _____ the speed.

Force

10) Differentiate balanced force, unbalanced force, and net force.
11) Which way is the box going to move? Why? (N = Newton = kg m/s^2)



Label weight and normal force on the diagram.

12) How can you change #11 to make it an example of balanced force?
13) What is Newton's First Law of Motion?
14) Give an example of 1st Law.
15) What is Newton's Second Law of Motion?
16) Give an example of 2nd Law.
17) What is Newton's Third Law of Motion?
18) Give an example of 3rd Law.
19) What is the formula for Newton's 2nd Law of Motion?
20) Be able to solve problems using the 2nd Law of Motion formula.
    A mass of an object is 15 kg and the acceleration is 15 m/s^2. What is the net force?
21) Explain why weight of an object changes depending on the location in the solar system and the mass remains the same.
22) Lubricants, ball bearings, and magnetic levitation are used to reduce _____.
23) What happens to an object if the net force is zero?
24) Define inertia
25) What is the relationship between mass and inertia?