

C 1) You see three dogs fighting over a bone. Each dog is pulling on the bone in a different direction with a different force, but the bone itself is moving with a constant speed in one direction. It is therefore the case:

- A) That the bone is accelerating.
- B) That there are no forces at all acting on the bone.
- C) That there is no *net* force acting on the bone.
- D) That there *is* a net force acting on the bone.
- E) That the bone must be on a frictionless surface.

F 2) I am holding a cord attached to a 1 kg mass. The 1 kg mass is attached in turn by a second cord to a 2 kg mass. (In other words, we have: Me --- 1 kg --- 2 kg). Both masses are just hanging from their cords. What is the tension in the second cord?

- A) 2 N
- B) 15 N
- C) 30 N
- D) 10 N
- E) 5 N
- F) 20 N

A 3) If I take a one-pound bag of cookies to the Moon, then:

- A) Its weight will change, but its mass will not.
- B) Its mass will change, but its weight will not.
- C) Neither its mass nor its weight will change.
- D) Both its mass and its weight will change.

4) I have a cord that is attached to a wall. I am pulling on the cord with a force of 10 N. Nothing is moving (i.e., nothing is accelerating).

Therefore, the wall is pulling back on me with a force of 10 newtons.

Therefore, the tension in the cord is 10 newtons.

B 5) A normal force is:

- A) Another name for gravity.
- B) The perpendicular component of a force on a surface.
- C) Any force acting on a surface.
- D) A force associated only with friction.
- E) One that always acts straight down.