Newton's Second & Third Laws Name _____

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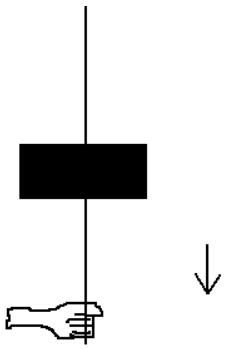

1. Weight of brick = 10 Newtons
   Force of pull = 5 Newtons

   What is the force acting on the bottom string? _____

   What is the force acting on the top string? _____

2. In the diagram above, giving the bottom string a quick snap will cause it to break instead of the top string. Why?

3. According to Newton's Second Law, an unbalanced force applied to an object will result in what? _____

5. The unit of force is called a newton. How many newtons of force are required to accelerate a 5-kg object at the rate of 10 m/s^2? Show your work.

6. If a force of 28 N is applied to a wagon that has a mass of 4 kg, what is the wagon's acceleration? Show work.

7. Two ice skaters stand together on the ice facing each other. One has a mass of 50 Kg and the other a mass of 100 Kg. If they push against each other with a force of 100 N what will be the acceleration of each skater? Show your work. Use Newton's 2^{nd} law equation: a = F/m

8. A man can jump a distance of 2 meters from a standing position on the ground. Explain what will happen if the man is standing in the front of a rowboat that is floating 2 meters from the shore and if he jumps toward the shore. Tell why it happens.