Newton's Laws

Physics – Mr. Hall

WORKSHEET #3

Name: _____

1. Draw a FBD (free body diagram) of a ball that has been kicked into the air when it reaches its highest point.

2. Draw a FBD of a book sitting on a table.

3. What is the weight of a 16.0 kg mass?

4. How much force does it take to push a 16.0 kg mass at a constant speed across a surface with a coefficient of friction of 0.050?

5. You apply 80.0 N of force to a 40.0 kg object. Assuming there is no friction, how fast would the object be going after 5.0 seconds?

6. You apply 80.0 N of force to a 40.0 kg object. There is a coefficient of friction between the object and the surface it's resting on of 0.20. How fast would the object be going after 5.0 seconds?

7. You apply 80.0 N of force to a 40.0 kg object. Assuming there is no friction, how fast would the object be going after 5.0 seconds?

8. An 80.0 kg sign is hanging by two cables that are each at an angle of 20.0° from vertical. What is the tension in each cable?