

## Homework 1

Complete Part I first, by taking notes that you will keep for yourself. (*Do not turn these in.*) Type up your answers to each of the questions in Part II and submit it in one double-spaced, Word document with your name on the top under the title. Use 12-point Times New Roman Font with 1" margins on all sides. If you have to do a calculation, solve the problem by hand on a separate sheet of paper. Then take a picture of your work and paste it into your word document in an appropriate place. When you are done upload this into the [Dropbox on Blazeview](#). If you are unable to use Word for the assignment, you may use another software package and upload a pdf instead.

### **PART I: Notes**

1. Read and take notes on the video "Why things move."
2. Re-watch and take notes on the Chat Session from the first day of class.

### **PART II: Assignment (25 points total)**

1. Define the following terms in your **own words**: (1 *points each*)
  - a. Scientific method
  - b. Law
  - c. Theory
  - d. Force
2. Convert each of the following into the appropriate units: (2 *points each*)
  - a. 500 m = \_\_\_\_\_ km
  - b. 2.5 hr = \_\_\_\_\_ s
  - c. 36 km/hr = \_\_\_\_\_ m/s
3. How much distance will you cover if you drive at 40 km/hr for 3 hours? (3 *points*)
4. If you increase your speed from 20 m/s to 35 m/s in 3 s, what is your acceleration? (3 *points*)
5. Fill in the blank: Joe pulls on the box with a force of 200 N but the box **does not move**. Thus, the acceleration is \_\_\_\_\_ m/s<sup>2</sup> and the frictional force  $f$  is \_\_\_\_\_ N. (4 *points*)
6. Joe pulls on the box hard enough to overcome the static friction and starts the box moving. Joe now pulls with a force of 400N and the box slides at a **constant velocity**. Is the sliding (or kinetic) friction, greater than, less than, or equal to the force he is pulling the box with? Explain your answer. (5 *points*)