Move Your Mass Lab Report

Physics

For this lab report, make sure to clearly show all equations, variables, measurements and calculations you used. It should be easy to identify what each number on your report means and where it came from. (Units are necessary for identifying initial measurements and final answers but are not necessary for calculations.) This is an individual assignment.

After completing the lab protocol, you will increase or decrease the mass of the hanging mass in order to change the acceleration of the cart. After you have picked a new mass, use this number along with the force of friction on the cart to predict what the resulting acceleration of the cart will be. Then, test your prediction using the cart and motion sensor. (There are many ways you can use your measurements to calculate the acceleration of the cart. You should use at least TWO different calculations for comparison purposes.)

1. What was the force of friction you calculated to be acting on the cart in the lab protocol? Make sure to fully document your measurements and calculations.

2. What did you change the mass of the hanging mass to, and what is your predicted acceleration for the cart? Again, make sure to fully document your calculations.

3. How did your predicted acceleration compare to your TWO calculated accelerations? (Remember, you needed to calculate the acceleration of your cart in two different ways – both using measurements from the motion sensor and the Big 4 equations.) Discuss the reasons your prediction and your two calculated accelerations might differ from each other. Include your ideas about possible sources of error in your measurements and calculations.