QUESTIONS TO HAND IN – EXPERIMENT 9

NAME_____

LAB INSTRUCTOR_____LAB DAY/TIME_____

1. Refer to the force triangle shown in the lower right of Figure 9-1. Make a similar sketch below and use trigonometry or geometry to prove that $F_x = m\, g \sin \theta$.

2. What is the net work done as predicted by Equation (2) when the incline angle is 0°?   What is the net work when the incline angle is 90°?

3. Use Equation (3) to predict the velocity achieved by a glider starting from rest and sliding a distance of 20 cm along a 30˚ frictionless inclined plane.

4. Suppose a glider is placed at the bottom of the incline and given an initial velocity directed up the incline. The resulting change in kinetic energy is (circle one):

   positive / negative.

5. In the case of question 4 above, the net work done on the glider is (circle one):

   positive / negative.