**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 *Fx = m g* sin **.

**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.**