1. When you fit an expression of the form $T = A/\sin \theta$ to your data, what value did your fit give for $A$, and how does it compare to $Mg/2$?

2. What did your fit give for the average difference between the fit and data, Root MSE? PASCO claims the force sensor has a resolution of about 0.03 N. Is your average error larger or smaller than this?

3. When you fit an expression of the form $T = A/\sin \theta + B$ to your data, what value did your fit give for $B$ and its standard deviation? Discuss what you think your results for $B$ mean.
4. You were asked to predict the effect of moving the weight hanger to the left and right. Discuss this prediction with the members of your group and write down your consensus opinion. Then, list your actual measurements and comment on them.

5. How accurately do you think you could measure the vertical positions of the string in each measurement (give your answer in mm)?

6. One can prove that any error in the vertical positions results in an error in the fitted tension that is roughly: \( \Delta T = T \times \Delta Y / Y \), where \( T \) is the tension, \( \Delta T \) is the error in the tension, \( Y \) is the vertical position, and \( \Delta Y \) is the accuracy of your measurement. Using your answer to the previous question, calculate \( \Delta T \) for a few of your points and compare to the Root MSE of your fit.

Something to think about: There is a flaw in the way we measure the horizontal and vertical positions in calculating the angle. Can you figure out what it is? (Hint: Think carefully about how the string passed over the pulley.)