Half-Atwood's Machine Lab

Procedure

Briefly, but completely, describe the procedure you used – and include labeled sketches.

Data

M = _____

m	a	

Graphs

Using appropriate scales, labels and units, make a linear graph with a <u>slope of **g**</u>. Use you answer to the question #2 to determine what should be on the **x** and **y**-axes to accomplish this. Find the best fits line of the linear graph.

Questions

1) Draw FBDs for **M** and **m**.

2) Write net force equations for each mass. Use these equations to find a formula for **a** as a function of **g**. This formula will help you determine what you need to graph to get a linear result with a slope of **g**.

3) Find the maximum **T**ension on the string during your experiment. Show your work.

4) Find the equation of your best fits line. Show your work.

5) The slope of your best fits line is your experimental value for **g**. Use 9.8 m/s^2 as the accepted value and find the percent error for your experimental results.

Error Analysis

Thoroughly explain what the main sources of error are for this lab, and how you would correct them.