Name:

Partner:

Physics 11
M. Lam

Atwood's Machine Lab

Block:

Objective
Use an Atwood's machine to determine the mass of a key

Equipment
key
pulley
string
100 g hooked weights (2)
ring stand
meter stick
stopwatch
electronic balance

Apparatus

Experimental Method

1. Construct an Atwood's machine using a ring stand, pulley and some weights. On one side attach a 100 g mass; on the other side attach both a 100 g mass and a key. Draw and label a diagram of your apparatus above.

2. Determine the distance that the key will descend. Record this below.

   Distance: _____

3. With the system starting from rest, measure the time it takes for the key to descend the distance determined above. Conduct a minimum of ten trials. Record these times below.

4. Measure the mass of the key using an electronic balance. Record this below.

   Mass of key: _____

Analysis and Discussion

1. Use your measurements to determine the mass of the key. Show all calculations and organize your work logically. Include a diagram showing the forces on both masses.

2. Determine the percent error.

3. Identify and discuss a minimum of two sources of error. Put a star next to what you believe to be the most significant source of error.