

Directions: Show all of your work for full credit.

1. What is the frequency of a pendulum that is 10m long?

\_\_\_\_\_ hz

2. A 1.5 m pendulum has a frequency of .8hz. What is the value of gravity at the location of this pendulum?

\_\_\_\_\_  $\text{m/s}^2$

3. Jupiter has a value of gravity about 2.45 times greater than that of earth's. If you wanted to create a pendulum on Jupiter that had a frequency of .005hz, how long would the pendulum have to be?

\_\_\_\_\_ m

4. A monkey is hanging by its tail in a tree. If the wind blows the monkey and it completes 55 swings in 75 s. How long is the monkey's tail?

\_\_\_\_\_ m

5. Suppose you have two identical pendulum clocks that were started at 10pm but on different worlds. The one on earth is seen to have a period of 2s. After 2 days, what would the clock on the other world read?(assume  $g$  on this planet =  $5.6\text{m/s}^2$ )

\_\_\_\_\_ time