Name:_____

Directions: Please show all work for full credit.

1. A man enters a tall tower, needing to know its height. He notes that a long pendulum extends from the ceiling almost to the floor and that its period is 25.5s.

_____ how tall is the tower?

2. If the above pendulum is taken to a different planet, where the value due to gravity is 5.63m/s/s, what is its period there?

_____ S

3. A simple 4m long pendulum oscillates at a location where g=9.8m/s/s. How many complete oscillations does it make in 7 minutes.

_____ cycles

4. A pendulum clock(period of 1s) that works perfectly on Earth is taken to the moon. Does it run faster or slower there? If it was 1:00 am on earth, what would the clock read on the moon 48hrs later? Moon gravity is 1.63m/s/s.

Faster or slower

_____ time of day

5. a pendulum is 2m long. What is the period of this pendulum if it is in an elevator accelerating upwards at 3m/s/s.

_____ upwards

_____downwards at 8m/s/s.

6. The gravitational pull on Mars is 3.7m/s/s. What length of pendulum would give you a period of 5 seconds?

_____ m

How would this compare to a 5s pendulum of earth?

Longer or shorter