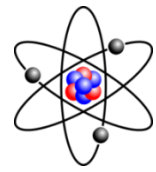
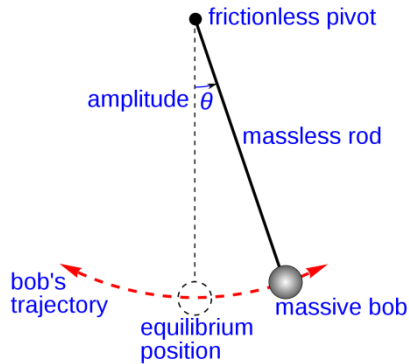


Name: _____



Simple Harmonic Worksheet

I pledge that I have neither given nor received any information beyond that permitted by the instructor, signed:



$$T = 2\pi \sqrt{\frac{L}{g}}$$

$$f = \frac{1}{T}$$

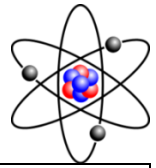
T: Period in seconds
 L: Length in meters
 G: 9.8 in m/s^2
 F: Frequency in Hz
 $\pi = 3.14$

Directions Solve. **SHOW ALL** your work. **CIRCLE** your final answer.

<p>1. Brianna's pendulum is 0.3 m long, what is its period?</p>	<p>SHOW YOUR WORK HERE</p>
<p>2. Cal Tech professor Jonny, attached a pendulum to the top of the Eiffel Tower. The tower is 330 meters tall. How many seconds does the professor's pendulum take to swing back and forth?</p>	
<p>3. The CenYC Sand Pendulum by Baluja industries, draws lines in sand and is a decorative conversation piece. It stands 25 cm high. What is its period?</p>	
<p>4. Angelina is using the school's swing set. After a few seconds she is swinging with a height of 45 degrees. It takes her 3.2 seconds to swing both back and forth. How long is the chain holding the seat she is sitting upon?</p>	



Name: _____



<p>5. Wealthy antique collector, Michelle, has just restored an 1835 grandfather clock powered by a pendulum and weights. The pendulum is exactly 1 meter long. How long does the pendulum take to swing back and forth?</p>	
<p>6. FPL engineer, E. Vasquez wants to make a pendulum clock to time the AC cycles of a new fusion power plant. He needs his pendulum to swing 60 times a second. How long should it be?</p>	
<p>7. Astronaut and scientist, Col Jordan, wants to make a similar pendulum to time the AC cycles of his new lunar nuclear power plant. The moon's gravity is 1.62 m/s^2. He needs his pendulum to swing exactly 60 times a second. How long should it be?</p>	
<p>8. Xavier, an architect wants to make a simple pendulum as a building decoration. He plans to make it so its period is exactly 1 second. What length must the pendulum have?</p>	
<p>9. Somewhere on a distant planet, a simple pendulum is pulled away from the equilibrium point and released. The pendulum comes back to the point of release exactly 2.4 seconds after the release. If the length of the pendulum is 1.3 m, what is the acceleration due to gravity on the planet?</p>	

