SPRING PENDULUM

1. The drawing of the spring pendulum on your paper shows the system at equilibrium. The "bob" is the block attached to the bottom of the spring.
2. A disturbing force is applied, and the bob is pulled downward 8.0cm. Draw a ***blue*** bob to show this new position.
3. The spring pendulum is released. Draw a ***red*** bob at the position of its maximum amplitude above the equilibrium.
4. On your drawing, label the position(s) of maximum potential energy; ***MAX PE.***
5. On your drawing, label the position(s) of maximum kinetic energy; ***MAX KE.***
6. On the right side of the paper, ***calculate*** the spring constant for this spring if the system bounces ten times in 7.5s. (Mass of the bob on the spring is .25kg.)
7. Just below your last calculation, ***calculate*** the maximum potential energy that this spring system had. Label this value inside the box(es) on your drawing at any position(s) that had the maximum potential energy.
8. Label inside the box(es) that had the maximum kinetic energy, the proper value for that.
9. Just below your calculation for potential energy, ***calculate*** what the restoring force for the spring was when it was pulled down to an amplitude of 8.0cm and held there.

SIMPLE PENDULUM

1. The drawing of the simple pendulum on your paper shows the system at equilibrium. The "bob" is the round object attached to the bottom of the string. (Mass of the bob is .25kg.)
2. A disturbing force is applied and the bob is moved to the left, giving it a ***vertical*** displacement of 3.0cm. Draw a ***blue*** bob to show this new position.
3. The simple pendulum is released. Draw a ***red*** bob at the position of its maximum amplitude on the right side of its swing.
4. On your drawing, label the position(s) of maximum potential energy; ***MAX PE.***
5. On your drawing, label the position(s) of maximum kinetic energy; ***MAX KE.***
6. On the bottom left of the paper, ***calculate*** the maximum potential energy that the simple pendulum system would have. Label this value below any position(s) on your drawing where this would occur.
7. Below the position(s) of maximum kinetic energy, label it with the correct value.
8. On the bottom right of your paper, ***calculate*** the velocity that the bob would have at the point it has maximum kinetic energy. (Assume there is no friction.)