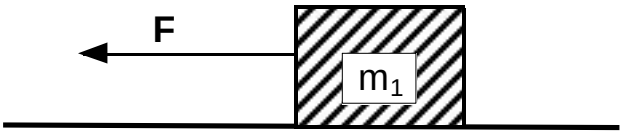
NAME_____ **PERIOD_____**

PHYSICS HOMEWORK QUIZ #9.5 D **WORK AND ENERGY**

A mass of m_1 = 6.0 kg is sitting on a horizontal surface which has a coefficient of sliding friction of μ_k = 0.663. A force F is applied to this mass so as to pull the mass to the left at a constant speed of v = 4.4 m/sec.



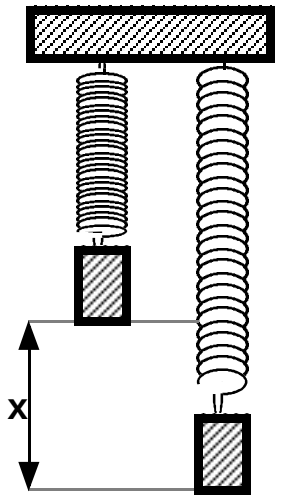
1. What is the magnitude of the force F required to pull this mass along the horizontal surface at a constant speed? [3 pts]

2. What will be the kinetic energy of the mass as it moves to the left? [3 pts]

3. How much work will be done by the applied force in moving the mass a distance of 220 meters? [3 pts]

A mass of m = 5.50 kg is hung from the end of a spring as shown to the right and as a result the spring stretches a distance of x = 38.0 cm. at which point equilibrium is reached.

4. What is the spring constant for this spring? [3 pts]



5. How much energy will be stored in this spring while the mass is suspended from its end? [3 pts]