Physics 21 Problem Set 5

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Due Monday, February 7 in class

Please make your work neat, clear, and easy to follow. It is hard to grade sloppy work accurately. Generally, make a clear diagram, and label quantities. Derive symbolic answers, and then plug in numbers after a symbolic answer is available.

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1. K&K 2.21
2. K&K 2.28
3. K&K 2.29
4. K&K 2.33
5. A 4.0-kg block hung vertically extends a spring 16 cm from its unstretched position. The first block is removed and a 0.50-kg block replaces it, and starts oscillating. What is the angular frequencey (ω) of the oscillation?
6. K&K 2.26
7. An object of mass m falls (on earth) vertically through a liquid with coefficient of viscosity C.
   (a) Find the terminal velocity without solving a differential equation.
   (b) Solve the differential equation to describe the speed as a function of time when the mass is released from rest.
