

MA 226 Section A1 Exercises  
April 1, 2005

1. A 4 kg mass is suspended from a spring in a liquid that offers a resistance force whose magnitude is eight times the velocity of the mass.
  - (a) Find all spring constants for which the mass does not oscillate once it is placed into motion.
  - (b) Does decreasing the magnitude of the spring constant cause the mass to oscillate slower or faster?
2. A mass of 3 kg is attached to the end of a spring that is stretched 20 cm by a force of 15 N. It is set in motion with initial position  $x_0 = 0$  and initial velocity  $v_0 = -10$  m/s. Find the amplitude, period, and angular frequency of the resulting motion.