General Physics I **Recitation Quiz - Oscillations** **Nov. 10, 2009**

Name:

For full credit, make your work clear. Don't forget to show the formulas you use, all the essential steps, and results with correct units and correct number of significant figures.

1. (2) A simple pendulum has a period of 1.00 second at sea level. When taken to the top of a mountain 4.00 km high, its period T is

a. greater than 1.00 s. b. less than 1.00 s. c. equal to 1.00 s.

2. A 22.0-gram mass is connected to a spring and oscillating at a frequency of 5.00 Hz in a horizontal back and forth motion along the x-axis of amplitude 1.20 cm, without friction.

a) (4) How long does it take for the mass to move once from maximum positive displacement to maximum negative displacement on the x-axis?

b) (4) When the mass is passing through its equilibrium position, what is the magnitude of its instantaneous acceleration?