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General Physics I, Quiz 4
PHYS1000AA, Class year102
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SN:_____, Name:_____

Chapter 14-15, Serway; ABSOLUTELY NO CHEATING!
Please write the answers on the blank space or on the back of this paper to save resources.

1. The spring of the pressure gauge shown in Figure 1 has a force constant of 1250

   N/m, and the piston has a diameter of 1.20 cm. As the gauge is lowered into water in

   a lake, what change in depth causes the piston to move in by 0.750 cm? ($\rho = 1.00 \times$
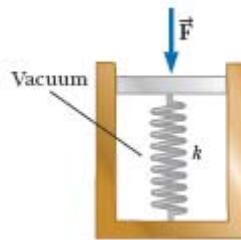
   10^3 kg/m^3)

Figure 1

2. A block of unknown mass is attached to a spring with a spring constant of 6.50 N/m

   and undergoes simple harmonic motion with an amplitude of 10.0 cm. When the

   block is halfway between its equilibrium position and the end point, its speed is

   measured to be 30.0 cm/s. Calculate (a) the mass of the block, (b) the period of the

   motion, and (c) the maximum acceleration of the block.