Name: Date: Period:

Equation Sheet - Spring Final Exam

Momentum

$$F \cdot t = \Delta p$$

$$\Delta p = p_f - p_i$$

$$\Sigma p_i = \Sigma p_f \qquad p = mv$$

Energy

$$W = Fd \qquad F_G = mg \qquad P = \frac{W}{t}$$

$$KE = \frac{1}{2}mv^2 \qquad PE = mgh \qquad KE_i + PE_i + W = KE_f + PE_f$$

Simple Harmonic Motion

$$T_P = 2\pi\sqrt{\frac{L}{g}} \qquad T_S = 2\pi\sqrt{\frac{m}{k}} \qquad F_S = -kd \qquad F_G = mg \qquad v = f\lambda$$

Light & Sound

$$v = f\lambda \qquad f = f_s\left(\frac{v \pm v_o}{v \mp v_s}\right) \qquad \frac{1}{d_i} + \frac{1}{d_o} = \frac{1}{f} \qquad M = \frac{h_i}{h_0} = \frac{-d_i}{d_o}$$

Speeds of Sound: air: 340 m/s water: 1530 m/s iron: 5100 m/s

Speed of Light: 3.0×10^8 m/s