

# Hw02a

Monday, January 23, 2017 3:54 AM

$$1. \quad D = \frac{2v_T^2}{a_p}$$

$$V_{fp} = 2v_T$$

$$2. \quad v_0 = g t_{top}$$

$$h_m = \frac{1}{2} g t_{top}^2$$

$$H = \frac{1}{2} g t_{ground}^2 - v_0 t_{ground}$$

$$3. \quad h = \frac{v_0^2}{2g} + H$$

$$v_y = -\sqrt{v_0^2 + 2gH}$$

$$t = \frac{v_0}{g} + \sqrt{\left(\frac{v_0}{g}\right)^2 + \frac{2H}{g}}$$

$$4. \quad v_i = 2\sqrt{gL}$$

$$y_m = 3L$$

$$t = (3 + \sqrt{6}) \sqrt{\frac{L}{g}}$$