

$$a = 10.0 \text{ m/s}^2$$

$$d = 400 \text{ m}$$

$$v_0 = 0 \text{ m/s}$$

$$a) \quad d = \frac{1}{2} \cdot a \cdot t^2$$

$$400 \text{ m} = \frac{1}{2} \cdot (10 \text{ m/s}^2) \cdot t^2$$

$$t = 8.94 \text{ sec}$$

$$b) \quad v_f = a \cdot t + v_i$$

$$= (10.0 \text{ m/s}^2)(8.94 \text{ sec}) + 0 \text{ m/s}$$

$$v_f = 89.4 \text{ m/s}$$