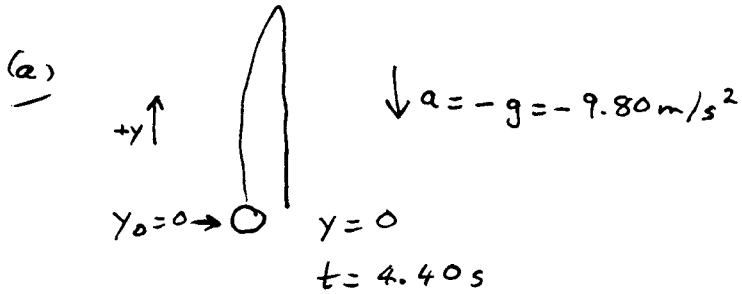


Problem 7-23



Use $y = y_0 + v_0 t + \frac{1}{2} a t^2$

$$\therefore 0 = 0 + v_0 (4.40) + \frac{1}{2} (-9.80) (4.40)^2$$

Solve for $v_0 \Rightarrow v_0 = 21.6 \text{ m/s}$ (21.56 m/s)

\therefore the velocity was 21.6 m/s upward.

(b)

Use $v^2 = v_0^2 + 2a(y - y_0)$

At top, $v = 0$.

$$\therefore 0^2 = (21.56)^2 + 2(-9.80)(y - 0)$$

$$\Rightarrow y = 23.7 \text{ m}$$