

97. Using the same coordinate system assumed in Eq. 4-25, we rearrange that equation to solve for the initial speed:

$$v_0 = \frac{x}{\cos \theta_0} \sqrt{\frac{g}{2(x \tan \theta_0 - y)}}$$

which yields $v_0 = 23 \text{ ft/s}$ for $g = 32 \text{ ft/s}^2$, $x = 13 \text{ ft}$, $y = 3 \text{ ft}$ and $\theta_0 = 55^\circ$.