$$\theta = \sin^{-1}\left(\frac{1}{2.0}\right) = 30.02°$$

$$v_s = 2.0\left(343.00 \text{ m/s}\right) = 680.00 \text{ m/s}$$

$$\tan\theta = \frac{y}{v_s t}, \quad t = \frac{y}{v_s \tan\theta} = 21.65 \text{ s}$$