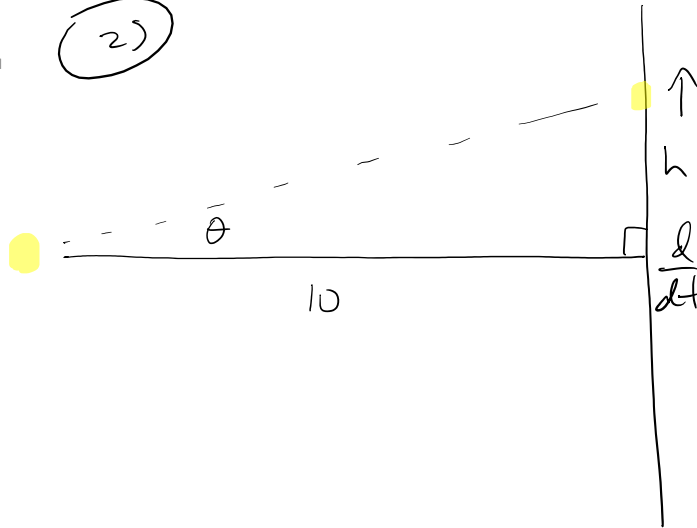


(2)



$$\theta = \pi/6$$

3 m/s/min

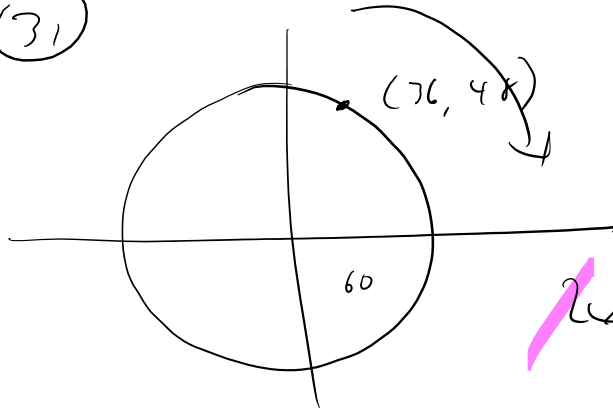
$$\frac{d}{dt} \left(\tan \theta = \frac{h}{10} \right)$$

$$\sec^2 \theta \frac{d\theta}{dt} = \frac{1}{10} \frac{dh}{dt}$$

$$\left(\frac{4}{3} \right) (6\pi) (10) = \frac{dh}{dt}$$

$$80\pi \frac{\text{miles}}{\text{min}} = \frac{dh}{dt}$$

(31)



$$\frac{dx}{dt} = 14 \text{ ft/s}$$

$$\frac{d}{dt} (x^2 + y^2 = 60^2)$$

$$2x \frac{dx}{dt} + 2y \frac{dy}{dt} = 0$$

$$36(14) + 48 \frac{dy}{dt} = 0$$

$$\frac{dy}{dt} = -10.5 \frac{\text{ft}}{\text{s}}$$