

$$\frac{r}{h} = \frac{5}{12}$$

$$\frac{12r}{12} = \frac{5h}{12} \rightarrow r = \frac{5}{12}h$$

$$10 \text{ ft}^3/\text{min} = \frac{dV}{dt}$$

$$\frac{dh}{dt} = ? \quad | \quad @ h=8$$

$$V = \frac{1}{3} \pi r^2 h$$

$$V = \frac{1}{3} \pi \left(\frac{5}{12} h \right)^2 h$$

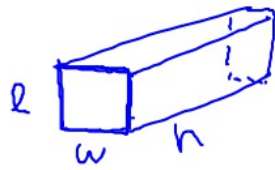
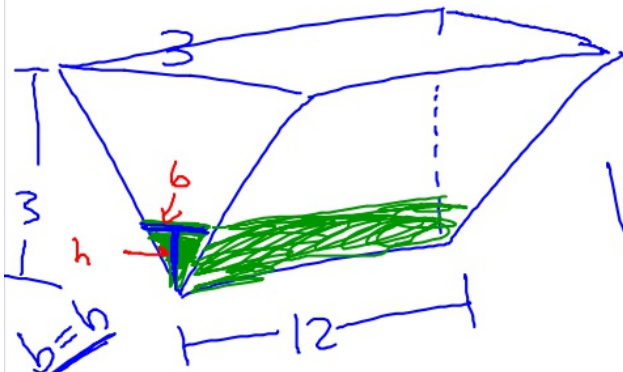
$$V = \frac{\pi \cdot 25}{3 \cdot 144} h^2 \cdot h$$

$$\frac{d}{dt} \left(V = \frac{25\pi}{432} h^3 \right) \frac{d}{dt}$$

$$\frac{dV}{dt} = \frac{25\pi}{432} \cdot 3h^2 \cdot \frac{dh}{dt}$$

$$10 = \frac{25\pi}{432} \cdot 3 \cdot 8^2 \cdot \frac{dh}{dt}$$

$$\frac{9}{10\pi} = \frac{dh}{dt}$$



$$V = B \cdot h$$

$$V = \left(\frac{1}{2} \cdot 3 \cdot 3\right) h$$

$$V = \frac{1}{2} \cdot 9 \cdot 12 = 54$$

$$V = \frac{1}{2} b \cdot h \cdot 12$$

$$V = 6b \cdot h$$

$$\frac{d}{dt} V = 6 \cdot h \cdot h = (6h^2) \frac{d}{dt}$$

$$\frac{dV}{dt} = 12h \frac{dh}{dt}$$

$$2 = 12 \cdot 1 \frac{dh}{dt}$$

$$\frac{2}{12} = \frac{12}{12} \cdot \frac{dh}{dt}$$

$$\frac{1}{6} \text{ min} = \frac{dh}{dt}$$

$$a.) \frac{dV}{dt} = 2$$

$$\frac{dh}{dt} = ?$$