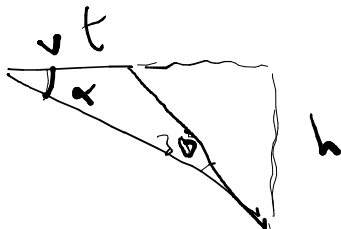
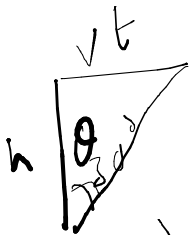


1.



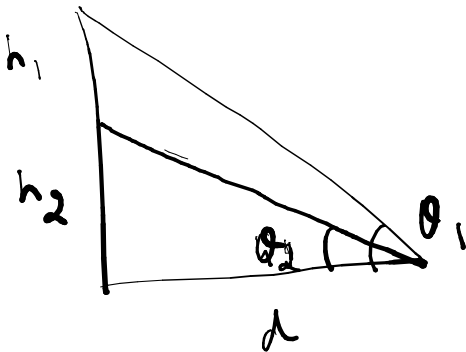
$$h [\cot \alpha - \cot (\alpha + 30^\circ)] = vt$$



$$vt = h \tan \theta$$

$$\Rightarrow v = \frac{h \tan \theta}{t}$$

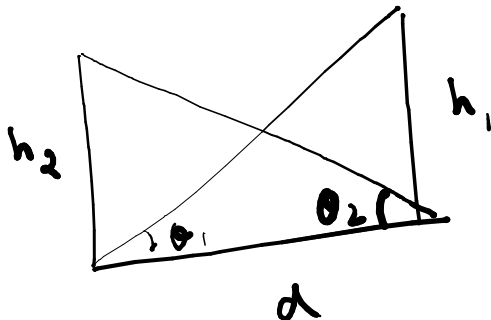
2.



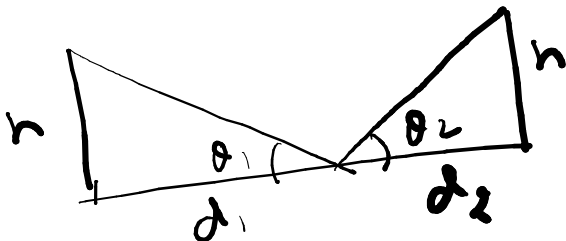
$$d = h_1 \cot \theta_1 = h_2 \cot \theta_2$$

$$2) \quad h_2 = \frac{h_1 \cot \theta_1}{\cot \theta_2}$$

3.



4.



$$d_1 = h \cot \theta_1$$

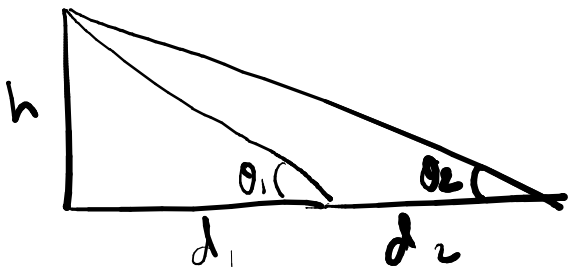
$$d_2 = h \cot \theta_2$$

$$d = d_1 + d_2$$

$$= h (\cot \theta_1 + \cot \theta_2)$$

$$\Rightarrow h = \frac{d}{\cot \theta_1 + \cot \theta_2}$$

5.



h - Tower, d_1 - Canal

$$d_1 = h \cot \theta_1$$

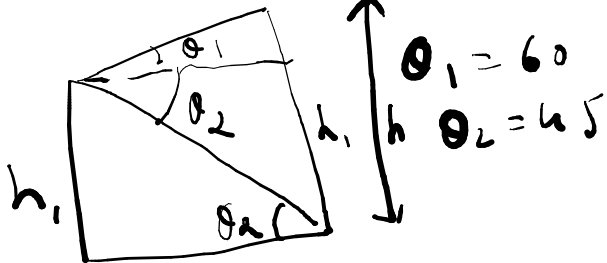
$$d_1 + d_2 = h \cot \theta_2$$

$$\Rightarrow d_2 = h (\cot \theta_2 - \cot \theta_1)$$

$$\Rightarrow h = \frac{d_2}{\cot \theta_2 - \cot \theta_1}$$

$$\text{or } d_1 = \frac{d_2 \cot \theta_1}{\cot \theta_2 - \cot \theta_1}$$

6.

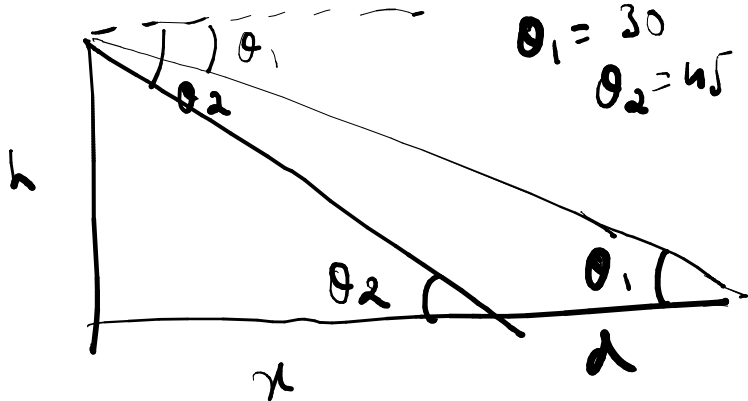


$$d = h_1 \cot \theta_2 \quad \text{--- (1)}$$

$$h = h_1 + d \tan \theta_1 \quad \text{--- (2)}$$

$$\begin{aligned} &= h_1 + h_1 \cot \theta_2 \tan \theta_1 \\ &= h_1 (1 + \tan \theta_1 \cot \theta_2) \end{aligned}$$

7.



$$x = h \cot \theta_2$$

$$x + d = h \cot \theta_1$$

$$\Rightarrow d = h (\cot \theta_1 - \cot \theta_2)$$