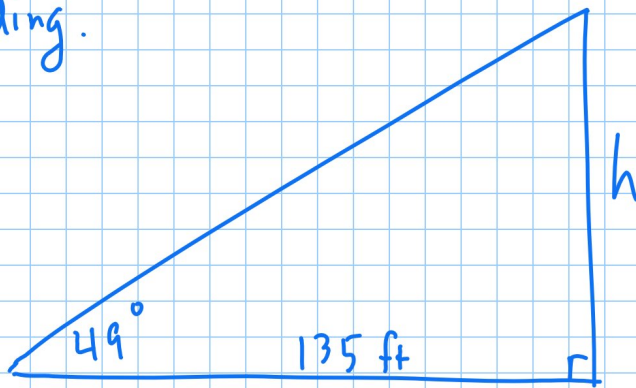


## WARMUP

You are standing 135 ft from the bottom of a building. The angle of elevation to the top of the building is  $49^\circ$ . Find the height of the building.

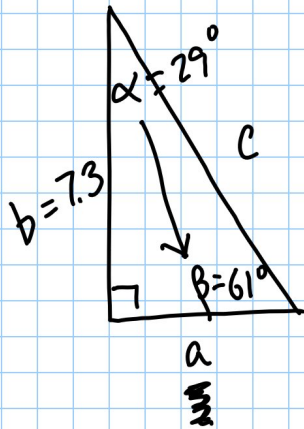


$$\tan 49^\circ = \frac{h}{135}$$

$$1.1504 = \frac{h}{135}$$

$$h = 155 \text{ ft}$$

4)



$$a = \frac{4.0}{1}$$

$$c = \frac{8.3}{1}$$

$$\alpha = \frac{29^\circ}{1}$$

$$4^2 + 7.3^2 = c^2$$
$$69.29 = c^2$$

$$90 - 61 = 29$$

$$\tan 29^\circ = \frac{a}{7.3}$$

$$a = 7.3 \tan 29^\circ$$

$$a = 4.0$$

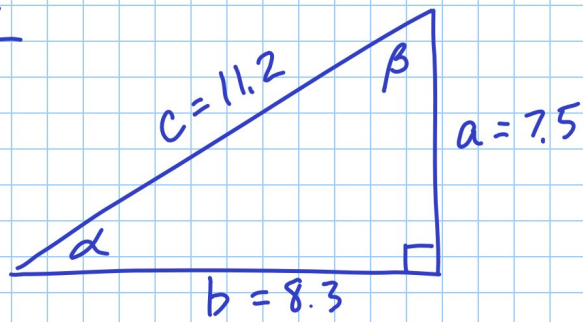
$$\tan 61^\circ = \frac{7.3}{a}$$

$$a = \frac{7.3}{\tan 61^\circ}$$

$$\cot 61^\circ = \frac{a}{7.3}$$

## 7.1 Notes Continued

ex:



$$\alpha = \frac{42^\circ}{1}$$

$$\beta = \frac{48^\circ}{1}$$

$$b = \frac{8.3}{1}$$

$$\beta = 90 - 42$$

$$7.5^2 + b^2 = 11.2^2$$
$$56.25 + b^2 = 125.44$$
$$b^2 = 69.19$$
$$b = 8.3$$

$$\sin \alpha = \frac{7.5}{11.2} \frac{\text{opp}}{\text{hyp}}$$

$$\alpha = \sin^{-1}\left(\frac{7.5}{11.2}\right)$$

$$\alpha = 42.0^\circ$$

## Assignment

p 536-537 27, 31, 34, 42, 43, 47, 51

