

p. 118 length of GH to the nearest tenth

4a)



② Find GH

$$\sin 66 = \frac{GH}{6.2557}$$

$$GH = (6.2557)(\sin 66)$$

$$GH = 5.71486... \text{ cm}$$

① Find GD

$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 46 = \frac{4.5}{GD}$$

$$GD = \frac{4.5}{\sin 46} = 6.2557 \text{ cm.}$$

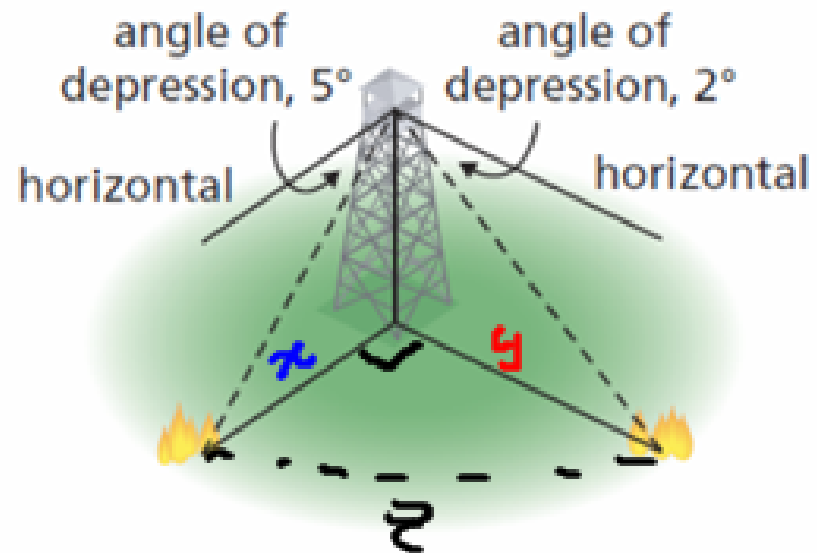
$$GH = 5.7 \text{ cm}$$

$$\tan \theta = \frac{\text{Opp.}}{\text{Adj.}}$$

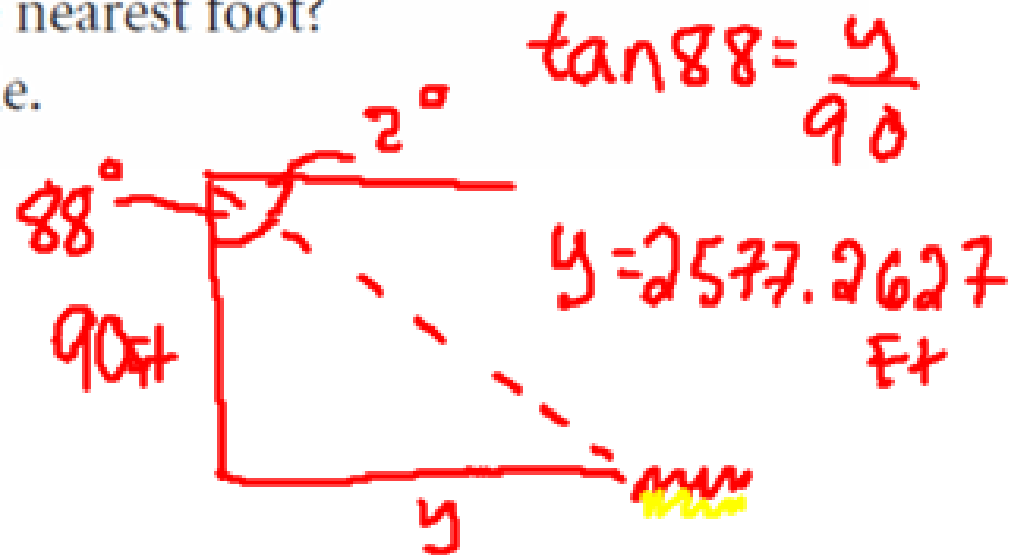
From the top of a 90-ft. observation tower, a fire ranger observes one fire due west of the tower at an angle of depression of  $5^\circ$ , and another fire due south of the tower at an angle of depression of  $2^\circ$ .

How far apart are the fires to the nearest foot?

The diagram is *not* drawn to scale.



$$\tan 85 = \frac{x}{90}$$



$$\tan 88 = \frac{y}{90}$$

$$y = 2577.2627 \text{ ft}$$

$$x = (90)(\tan 85) = 1028.7047 \text{ ft}$$

$$x = 1028.7047 \text{ ft}$$

$$y = 2577.2627 \text{ ft}$$



$$z^2 = x^2 + y^2$$

$$z^2 = (1028.7047)^2 + (2577.2627)^2$$

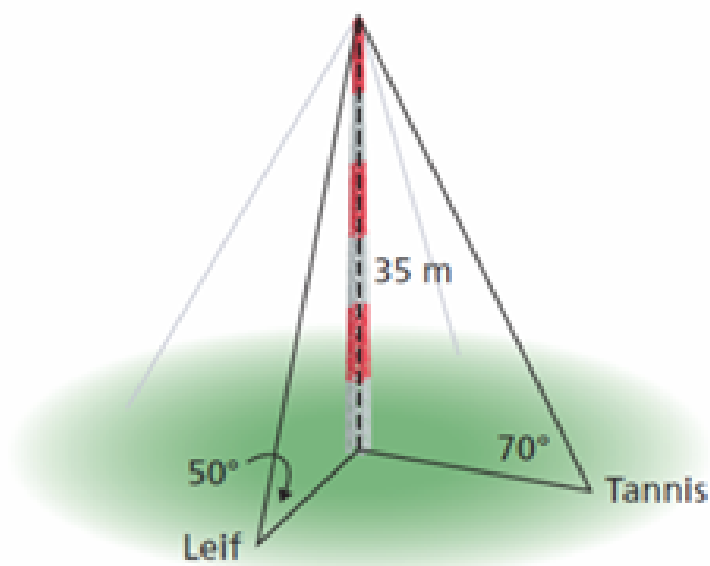
$$z = 2774.9805 \text{ ft}$$

$$z = 2775 \text{ ft}$$

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3. A communications tower is 35 m tall. From a point due north of the tower, Tannis measures the angle of elevation of the top of the tower as  $70^\circ$ . Her brother Leif, who is due east of the tower, measures the angle of elevation of the top of the tower as  $50^\circ$ . How far apart are the students to the nearest metre? The diagram is *not* drawn to scale.

32m



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