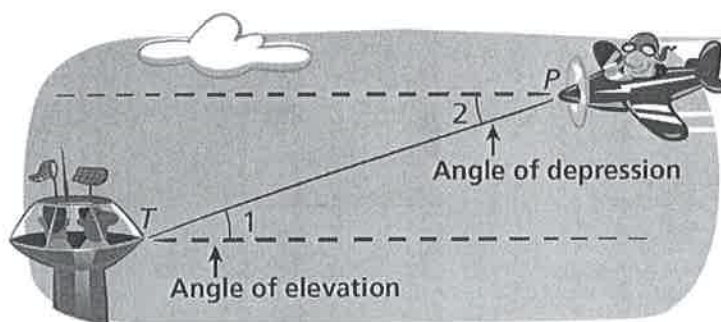


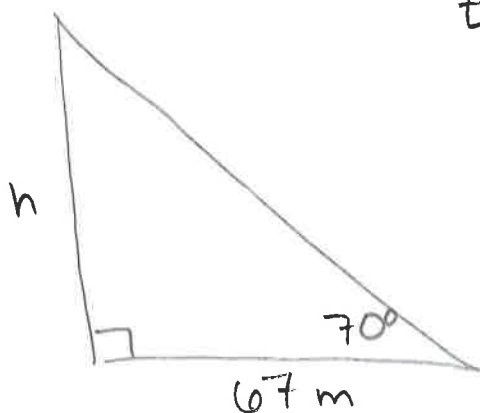
9.6B

angle of elevation is the angle formed by a horizontal line and a line of sight to a point *above* the line.

angle of depression is the angle formed by a horizontal line and a line of sight to a point *below* the line.



The Seattle Space Needle casts a 67-meter shadow. If the angle of elevation from the tip of the shadow to the top of the Space Needle is 70° , how tall is the Space Needle? Round to the nearest meter.

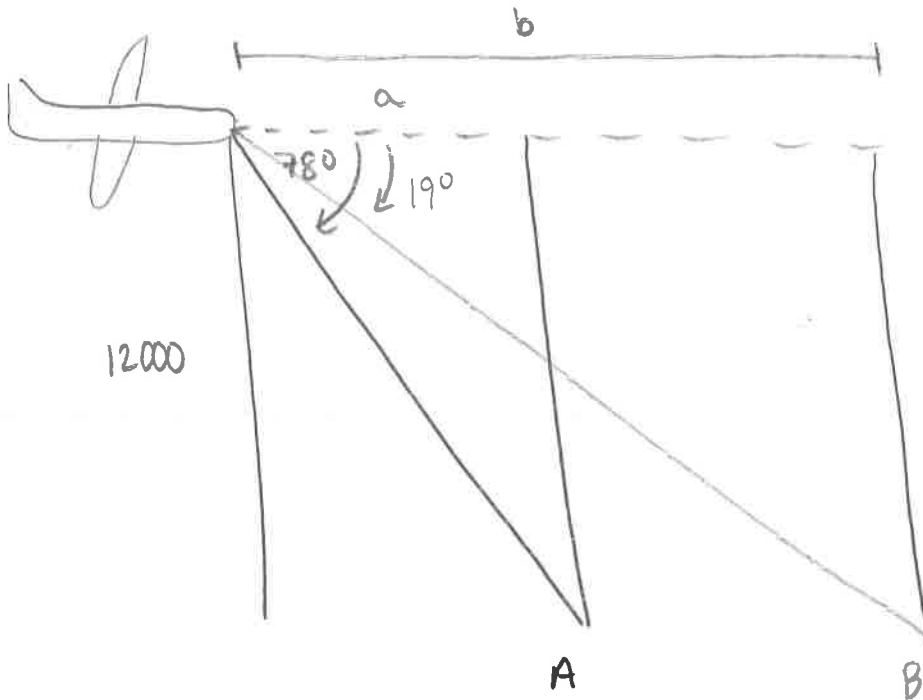


$$\tan 70 = \frac{h}{67}$$

$$h = 67 \tan 70$$

$$h = 184.08 \text{ m}$$

A pilot flying at an altitude of 12,000 ft sights two airports directly in front of him. The angle of depression to Airport A is 78° and the angle of depression to Airport B is 19° . What is the distance between the two airports?



$$\tan 78 = \frac{12000}{a}$$

$$a = \frac{12000}{\tan 78} = 2550.68 \text{ ft}$$

$$\tan 19 = \frac{12000}{b}$$

$$b = \frac{12000}{\tan 19} = 34850.53 \text{ ft}$$

$$AB = 34850.53 - 2550.68$$

$$AB = 32299.85 \text{ ft}$$

Homework:

WS Practice 9.4 - 9.6