



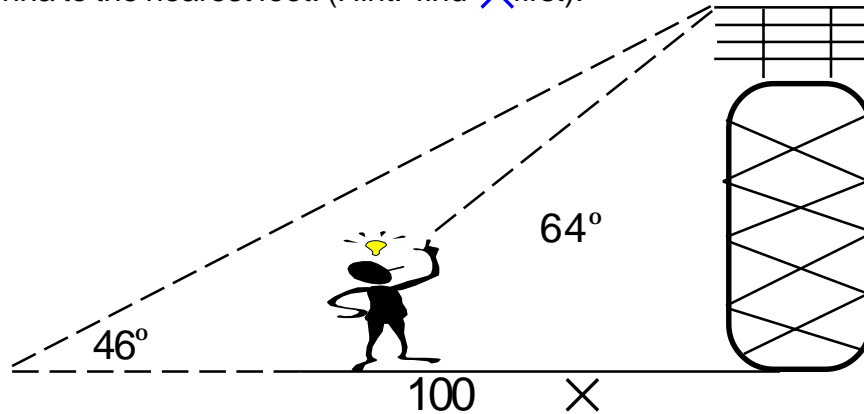
Math Study Strategies

Math for Air Traffic Control

Angle of Elevation

Problem:

ANGLE OF ELEVATION: A man standing near a radio station antenna observes that the angle of elevation to the top of the antenna is 46 degrees. Find the height of the antenna to the nearest foot. (Hint: find \times first).



Step # 1

To find the height, use the property:

$$\tan = \frac{\text{opposite}}{\text{adjacent}}$$

$$\tan 64^\circ = \frac{h}{\times} \text{ and } \tan 46^\circ = \frac{h}{100\times}$$

Step # 2

We solve for: h $h = \times \tan 64^\circ$ and $h = 46^\circ(100\times)$

Step # 3

Since height is the same $h = h$ Therefore: $\times \tan 64^\circ = \tan 46^\circ(100\times)$

Step # 4

Solve for \times : $\times \tan 64^\circ - 100 \tan 46^\circ = 205$

Step # 5

Now we substitute the value to solve for h

Since h is $\times \tan 64^\circ = 104(\tan 64^\circ) \approx 212$ or

$$h = \tan 46^\circ(100 + \times)$$

$$h \approx 219$$

