

# Geometry

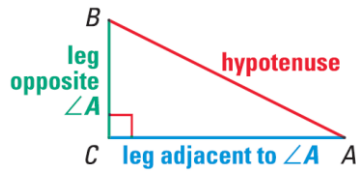
## 9.5 The Sine and Cosine Ratios

### Sine and Cosine Ratios

$$\sin A = \frac{\text{leg opposite } \angle A}{\text{hypotenuse}}$$

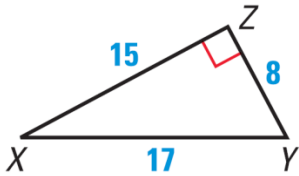
$$\cos A = \frac{\text{leg adjacent to } \angle A}{\text{hypotenuse}}$$

$$\tan A = \frac{\text{leg opposite } \angle A}{\text{leg adjacent to } \angle A}$$



|   |   |   |
|---|---|---|
| S | O | H |
| C | A | H |
| T | O | A |

Find  $\sin X$ ,  $\cos X$ , and  $\tan X$



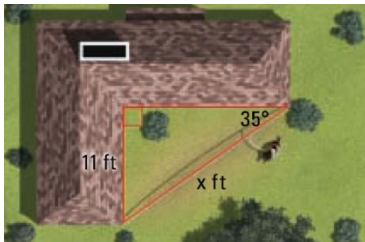
**Sine of an angle = cosine of the complement**

$$\sin A = \cos(90^\circ - A) = \cos B$$

$$\cos A = \sin(90^\circ - A) = \sin B$$

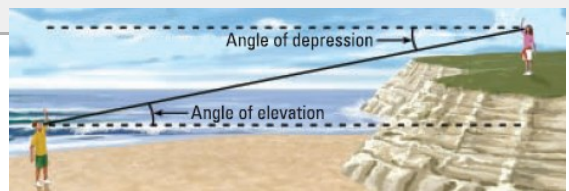
Write  $\cos 68^\circ$  in terms of sine.

Find the length of the dog run ( $x$ ).



**Angle of Elevation and Depression**

Both are measured from the \_\_\_\_\_  
 Since they are measured to \_\_\_\_\_ lines, they are \_\_\_\_\_



The angle of elevation of a plane as seen from the airport is  $50^\circ$ . If the plane's 1000 ft away, how high is plane?

Assignment: 480 #2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 27, 28, 30, 35, 38, 41, 44, 45, 48 = 20 total