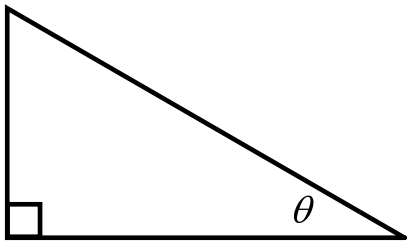
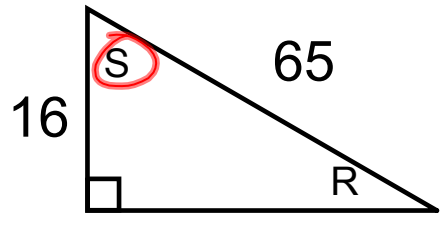
Chapter 7.6: Apply Sine and Cosine Ratios

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

$$\cos\theta = \frac{adj}{hyp}$$



Find sin S and sin R. Write each answer as a fraction and as a decimal rounded to four places.



$\sin S = \frac{63}{65}$

.96923

.9692

$\sin R = \frac{16}{65}$

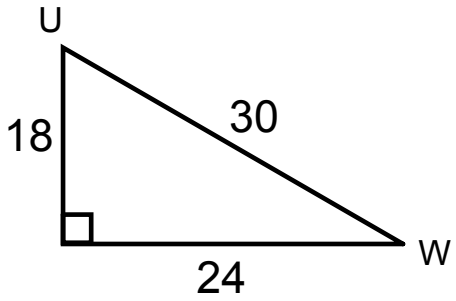
.2461 5

.2462

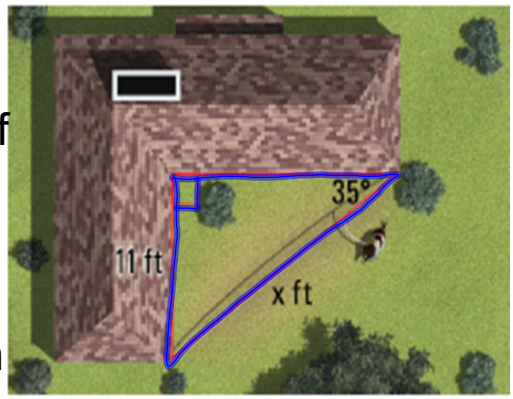
$\cos S = \frac{16}{65} = .2462$

$\cos R = \frac{63}{65} = .9692$

Find cos U and cos W. Write each as a fraction and as a decimal.



You want to string cable to make a dog run from two corners of a building. Write and solve a proportion using a trig ratio to approximate the length of tcable you will need.

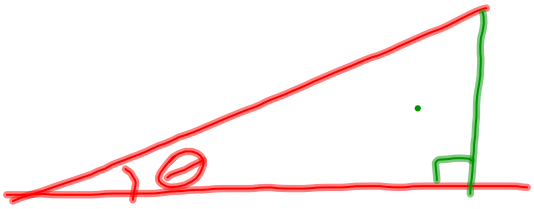


$$\frac{\sin(35)}{1} = \frac{11}{x}$$

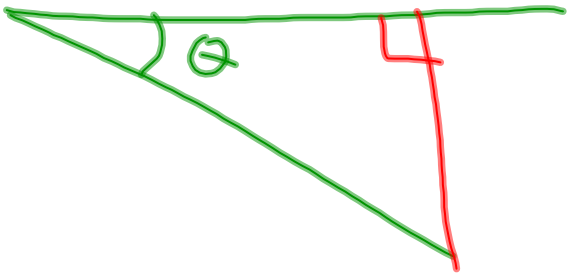
$$\frac{11}{\sin(35)} = \frac{x\sin(35)}{\sin(35)}$$

$$x = 19.1779 \text{ ft}$$

Angle of Elevation:



Angle of Depression:



You are skiing on a mountain with an altitude of 1200 **meters. The angle of depression is** 21° **. About how far do you ski down the mountain?**

$$\frac{\sin(21)}{1} = \frac{1200}{x}$$

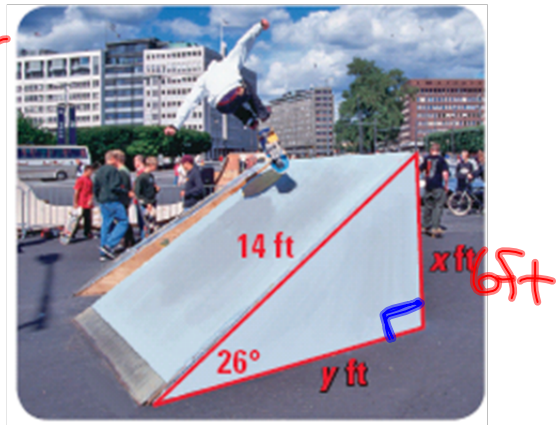
$$\frac{1200}{\sin(21)} = \frac{x \sin(21)}{\sin(21)}$$

$$x = 3348.5137$$

d an angle of elevation of $26°$. You need to eight and length of the base of the ramp.

$14\sin(26) = \frac{x}{14}(14)$

$x = 6$ ft



$14\cos(26) = \frac{y}{14}(14)$

$y = 13$ ft

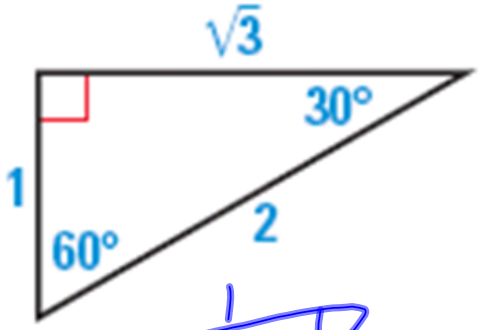
Find the sine and cosine of 60° and the sine and cosine of 30°

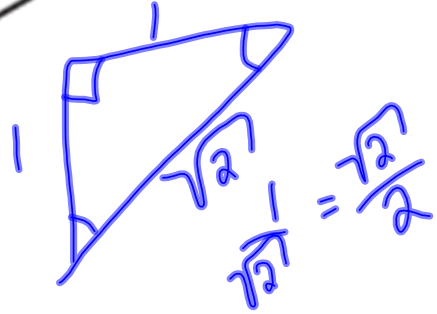
$\sin(30) = \frac{1}{2}$

$\cos(60) = \frac{1}{2}$

$\sin(60) = \frac{\sqrt{3}}{2}$

$\cos(30) = \frac{\sqrt{3}}{2}$





Homework: Chapter 7.6 pg.477 #'s 4,8,10-14e,18,20,22,26,34