

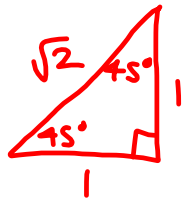
Review:

A reference angle for an angle whose initial side is on the positive x-axis and terminal side may lie in any of the four quadrants is the positive acute angle between the terminal side of the angle and the X-axis.

Evaluate the following trigonometric expressions. Give exact answers. You do not have to rationalize. Draw a picture if this helps you.

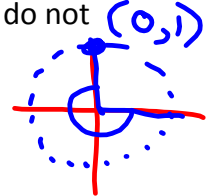
$\sin 45^\circ$

$\frac{1}{\sqrt{2}}$



$\sec(-270^\circ)$

$\frac{1}{0}$  undefined

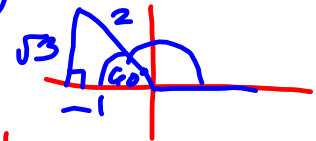


$\tan 60^\circ$

$\sqrt{3}$

$\cot(120^\circ)$

$-\frac{1}{\sqrt{3}}$



$\sec 45^\circ$

$\sqrt{2}$

$\csc(-135^\circ)$

$-\sqrt{2}$



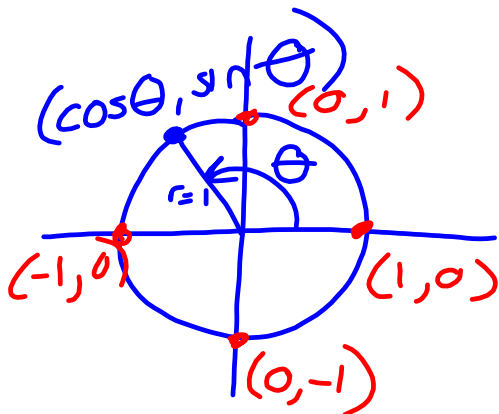
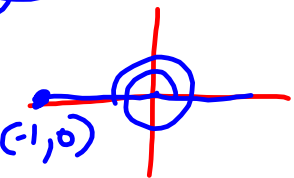
$\csc 30^\circ$

2

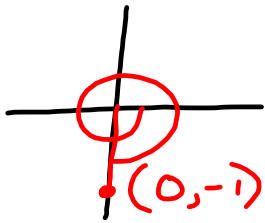


$\tan(540^\circ)$

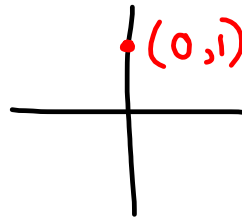
$\frac{\sin 540^\circ}{\cos 540^\circ} = \frac{0}{-1} = 0$



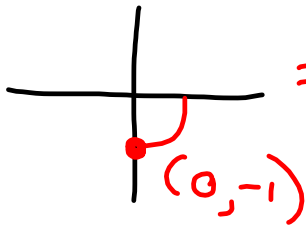
$$\sin(-450^\circ) = \boxed{-1}$$



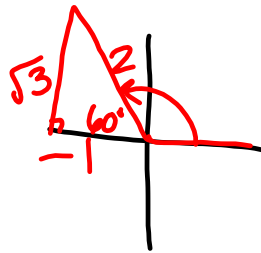
$$\csc(90^\circ) = \frac{1}{\sin 90^\circ} = \boxed{1}$$



$$\cot(-90^\circ) = \frac{\cos(-90^\circ)}{\sin(-90^\circ)} = \frac{0}{-1} = \boxed{0}$$



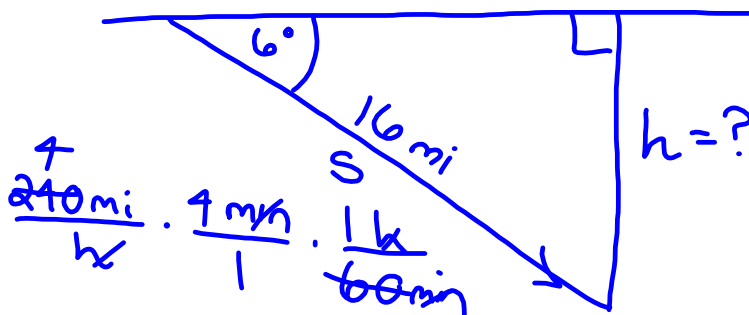
$$\cos(120^\circ) = \boxed{-\frac{1}{2}}$$



Homework questions?

5.2

#67. 240 mph ; descending @ angle of depression  $6^\circ$   
 how many miles will plane descend in 4 min?



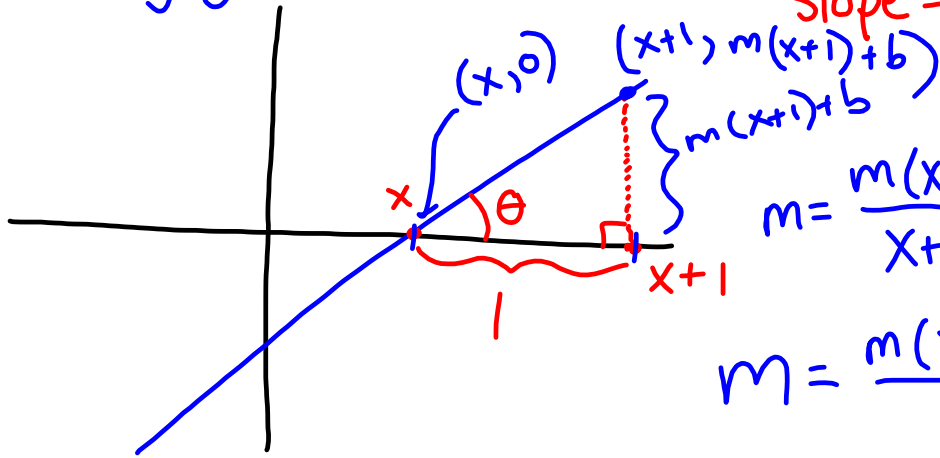
$$\sin 6^\circ = \frac{h}{16 \text{ mi}}$$

$$h = 16 \sin 6^\circ \text{ mi} \approx 1.7 \text{ mi}$$

5.2  
#61

$$y = mx + b$$

$$y - y_1 = m(x - x_1)$$



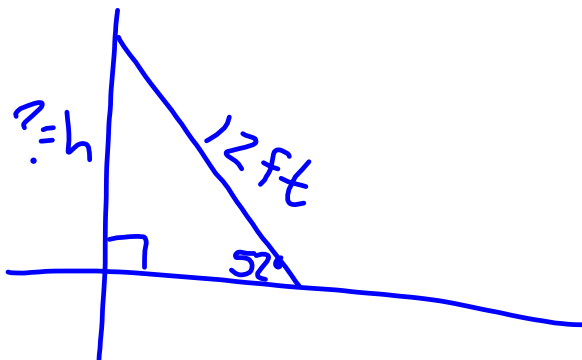
show that  
slope =  $\tan \theta$

$$m = \frac{m(x+1)+b}{x+1-x}$$

$$m = \frac{m(x+1)+b}{1}$$

$$m = \frac{y - y_1}{x - x_1}$$

5.2  
59.



Common angles:

(memorize!)

$$\frac{\pi}{6} = 30^\circ$$

$$\frac{\pi}{4} = 45^\circ$$

$$\frac{\pi}{3} = 60^\circ$$

Note:

$$\frac{k\pi}{6} \rightarrow 30^\circ \text{ ref. } \angle$$

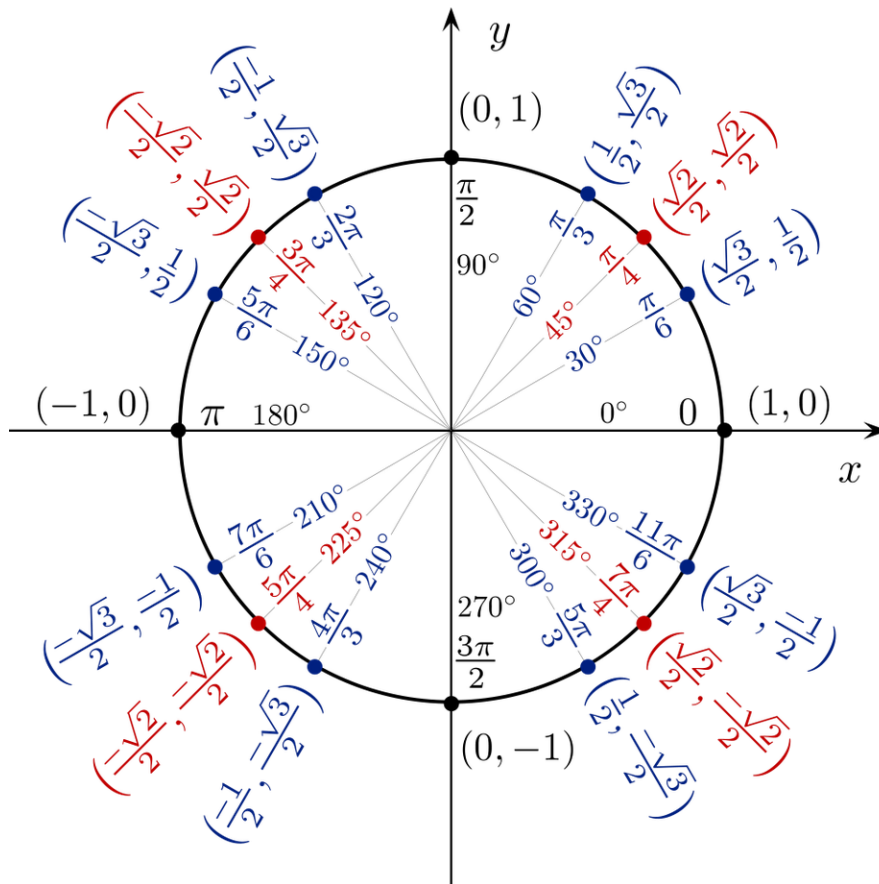
$$\frac{k\pi}{4} \rightarrow 45^\circ \text{ ref. } \angle$$

$$\frac{k\pi}{3} \rightarrow 60^\circ \text{ ref. } \angle$$

$$\frac{k\pi}{2} \rightarrow 90^\circ \text{ or } 270^\circ$$

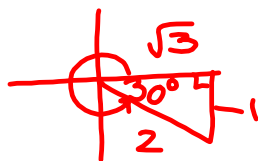
$$k\pi \rightarrow 0^\circ \text{ for } k \text{ even};$$

$$180^\circ \text{ for } k \text{ odd}$$

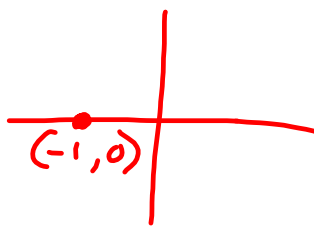


Evaluate the trigonometric function of an angle given in radians

$$\cos \frac{11\pi}{6} = \boxed{\frac{\sqrt{3}}{2}}$$



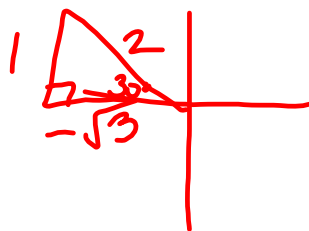
$$\sin 329\pi = \boxed{0}$$



$$\tan \frac{7\pi}{2} = \boxed{\text{Undefined}}$$



$$\sec \frac{5\pi}{6} = \boxed{-\frac{2}{\sqrt{3}}}$$



**Homework:**

Due Wednesday, 11/13:

- "Do you know enough Algebra..." take home quiz

Due Friday:

- 5.2 #35-41odd; 59-75odd
- 5.3 #1-35odd; 37-48all; 61-68all

**We will go over the in-class quiz and Algebra quiz on Wednesday**