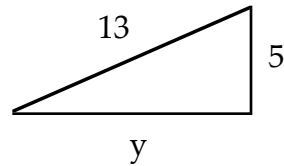
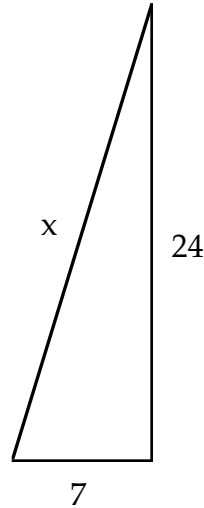
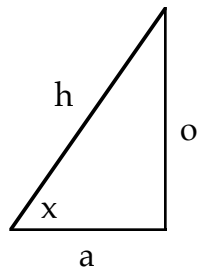


## Trig Functions : Review - 10

1) Find the lengths of the sides of the right triangles.



2) The trig ratios for a right triangle are given below. The letters, o, a, and h, mean; opposite, adjacent and hypotenuse.

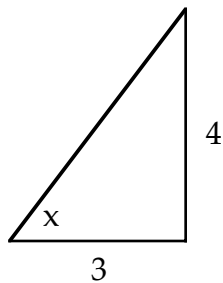


$$\begin{array}{ll} \sin x = \frac{o}{h} & \csc x = \frac{h}{o} \\ \cos x = \frac{a}{h} & \sec x = \frac{h}{a} \\ \tan x = \frac{o}{a} & \cot x = \frac{a}{o} \end{array}$$

The trig ratios can be remembered by using the acronym;

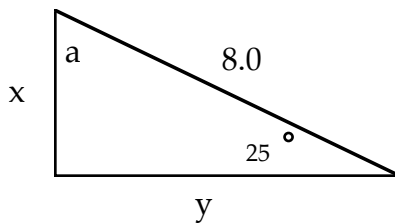
**SOHCAHTOA**

Find the trig ratios for the right triangle shown below.



- a)  $\sin x = \underline{\hspace{2cm}}$  ,      b)  $\cos x = \underline{\hspace{2cm}}$  ,      c)  $\tan x = \underline{\hspace{2cm}}$  .  
 d)  $\csc x = \underline{\hspace{2cm}}$  ,      e)  $\sec x = \underline{\hspace{2cm}}$  ,      f)  $\cot x = \underline{\hspace{2cm}}$  .  
 g) angle  $x = \underline{\hspace{2cm}}$  .

3) Solve the right triangle.



- a)  $x = \underline{\hspace{2cm}}$  . ,      b)  $y = \underline{\hspace{2cm}}$  . ,      c) angle  $a = \underline{\hspace{2cm}}$  .

4) Use a calculator.

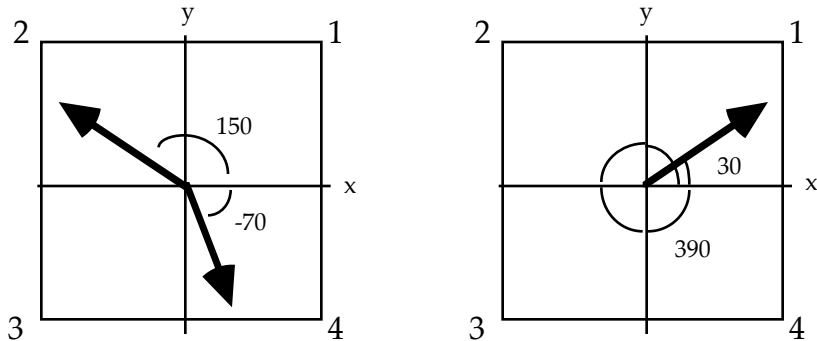
- a)  $\sin (21^\circ) = \underline{\hspace{2cm}}$  ,      b)  $\cos (50^\circ) = \underline{\hspace{2cm}}$  ,      c)  $\tan (35^\circ) = \underline{\hspace{2cm}}$  .

5) Solve for  $x$ , and  $y$ .

a)  $\sin x = 0.75$ ,       $x = \underline{\hspace{2cm}}$  .

b)  $\cos y = 0.50$ ,       $y = \underline{\hspace{2cm}}$  .

6) Angles can be greater than  $90^\circ$ , or negative. Angles can be in any of the four quadrants. Examples are shown below.



The angle  $150^\circ$  is in the second quadrant. The angle  $-70^\circ$  is in the fourth quadrant. The angle  $30^\circ$  is in the first quadrant. The angle  $390^\circ$  is also in the first quadrant. The angle  $390^\circ$  is said to be coterminal with  $30^\circ$ .

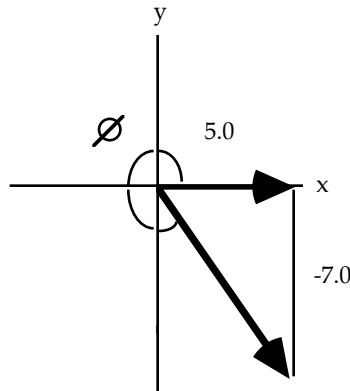
a) Find the trig values. Use a calculator.

$\sin(150^\circ) = \underline{\hspace{2cm}}$  ,  $\cos(150^\circ) = \underline{\hspace{2cm}}$  ,  $\tan(150^\circ) = \underline{\hspace{2cm}}$  .

b) In which quadrant is  $+1320^\circ$ ?

c) Give a positive angle which is coterminal with  $-140^\circ$ .

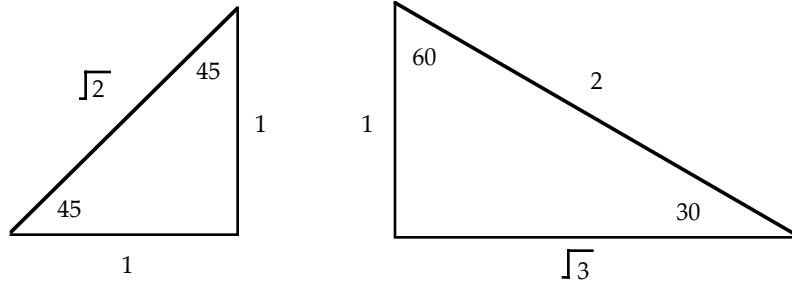
7) An angle  $\theta$  has a terminal arm passing through the point  $(5.0, -7.0)$ .



Find the following:

a)  $\sin \theta = \underline{\hspace{2cm}}$ , b)  $\cos \theta = \underline{\hspace{2cm}}$ , c)  $\tan \theta = \underline{\hspace{2cm}}$ , d)  $\theta = \underline{\hspace{2cm}}$ .

8) Special right triangles. Find the exact trig values.



a)  $\sin 45 = \underline{\hspace{2cm}}$ ,  $\cos 45 = \underline{\hspace{2cm}}$ ,  $\tan 45 = \underline{\hspace{2cm}}$ .

b)  $\sin 30 = \underline{\hspace{2cm}}$ ,  $\cos 30 = \underline{\hspace{2cm}}$ ,  $\tan 30 = \underline{\hspace{2cm}}$ .

c)  $\sin 60 = \underline{\hspace{2cm}}$ ,  $\cos 60 = \underline{\hspace{2cm}}$ ,  $\tan 60 = \underline{\hspace{2cm}}$ .

Answers: 1)  $x = 25$ ,  $y = 12$ , 2)a) 0.80, b) 0.60, c) 1.33, d) 1.25, e) 1.67, f) 0.75, g)  $53.13^\circ$ , 3)a) 3.38, b) 7.25, c)  $65^\circ$ , 4)a) 0.36, b) 0.64, c) 0.70, 5)a)  $48.6^\circ$ , b)  $60.0^\circ$ , 6)a) 0.50, -0.87, -0.58, b) 3, c)  $220^\circ$ , 7)a) -0.8, b) 0.6, c) -1.4, d)  $305^\circ$ , b) 8)a)  $\sqrt{2}/2$ ,  $\sqrt{2}/2$ , 1, b)  $1/2$ ,  $\sqrt{3}/2$ ,  $\sqrt{3}/3$ , c)  $\sqrt{3}/2$ ,  $1/2$ ,  $\sqrt{3}$ .