Reflect for the week and turn in!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: 12/11 Topic: Unit 3 test Friday - no HW!	0 1 2	
Tuesday Date: 12/12 Topic: 5AB Radicals	0 1 2	
Wednesday Date: 12/13 Topic: 5C Simplifying Radicals	0 1 2	
Thursday Date: 12/14 Topic: Special Right Triangles	0 1 2	
Friday Date: 12/15 Topic: Unit Circle	0 1 2	

Please reflect!

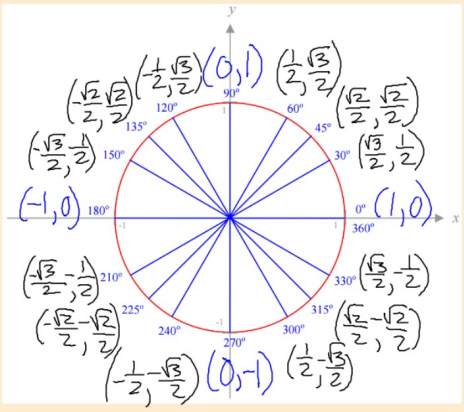
Class Plan:

1. Warm-up

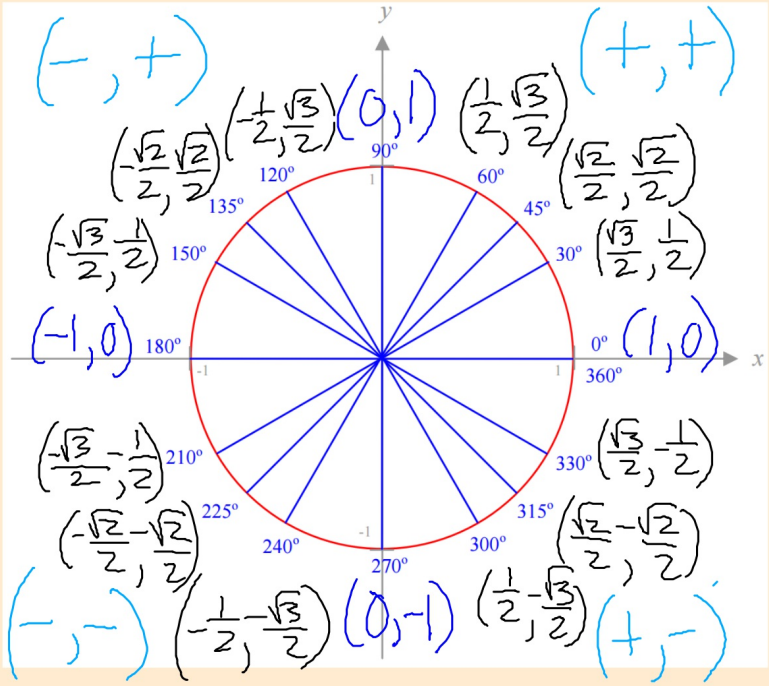
2. Examples (finding exact trig values)

3. Practice (4 in a row)

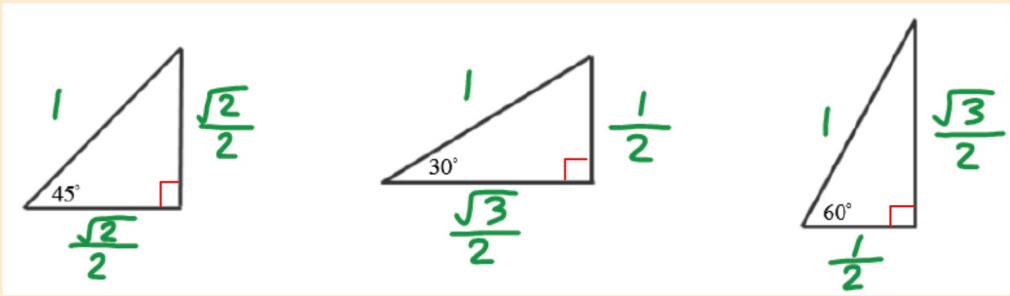
The Unit Circle (x, y) = (cosθ, sinθ)



The Unit Circle $(x, y) = (\cos\theta, \sin\theta)$

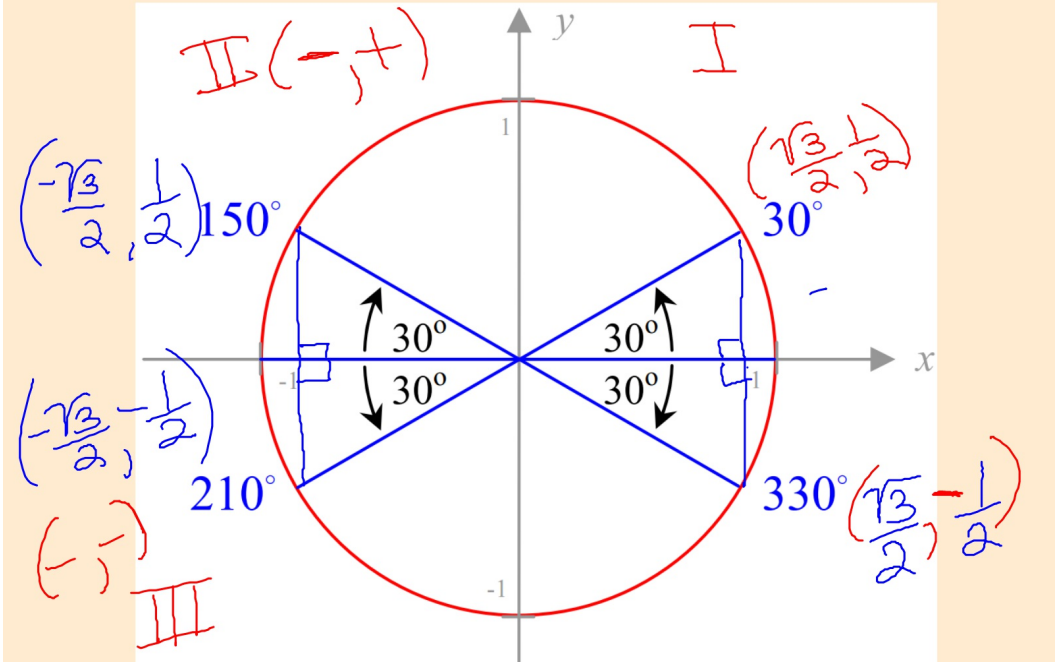


We will use the special right triangles from the Unit Circle to solve for trigonometric values.



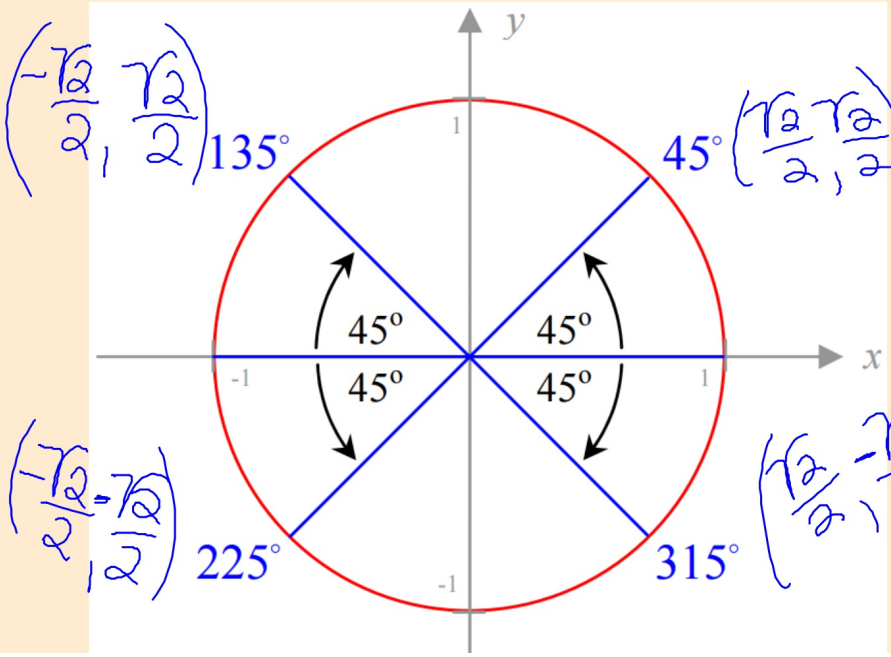
Angles with Reference angles of 30°:

Reference Angle: Angle between the terminal side and x-axis



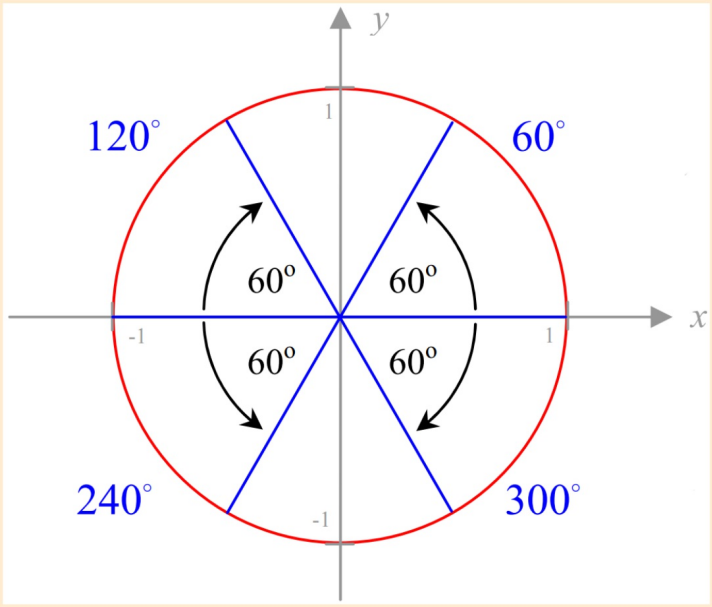
Angles with Reference angles of 45°:

Reference Angle: Angle between the terminal side and x-axis



Angles with Reference angles of 60^{o}:

Reference Angle: Angle between the terminal side and x-axis



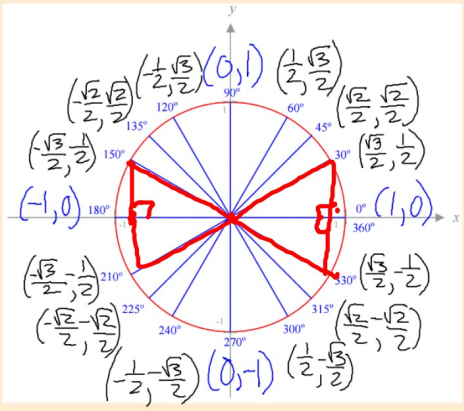
Warm-up:

Find the exact trigonometric value.
(You may use your unit circle)

$\sin(30°) =$ ____

$\sin(150°) =$ ____

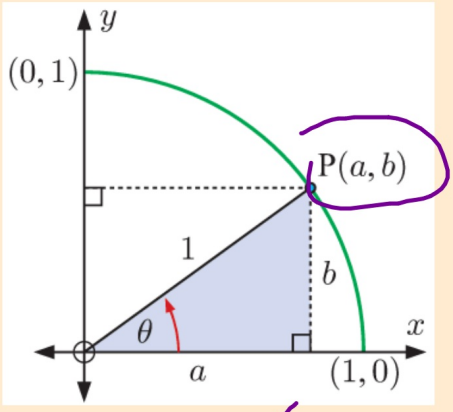
The Unit Circle (x, y) = (cosθ, sinθ)



(verify using your calculator)

Coordinates on The Unit Circle

Find *a (x-value)* and *b (y-value)*
in terms of sine and cosine

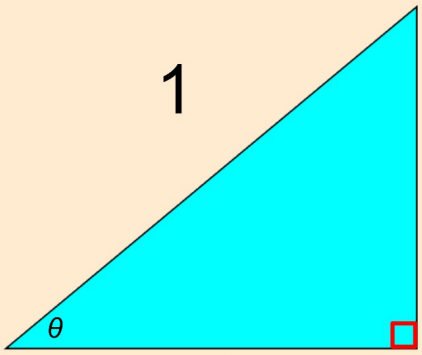


$$\sin(\theta) = \frac{b}{1}$$

$$\cos(\theta) = \frac{a}{1}$$

$(\cos\theta, \sin\theta)$

The Unit Triangle



opp

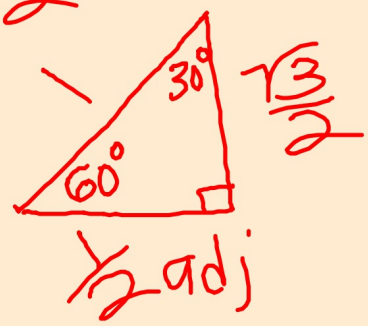
adj

$$\tan\theta = \frac{\sin\theta}{\cos\theta}$$

Example 1:

Find the exact trigonometric value.

$$\cos(60°) = \frac{1}{2}$$

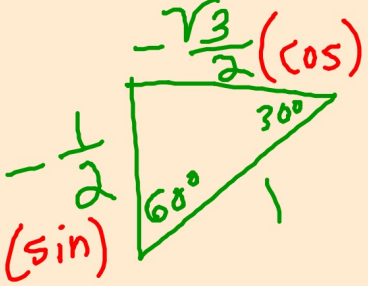


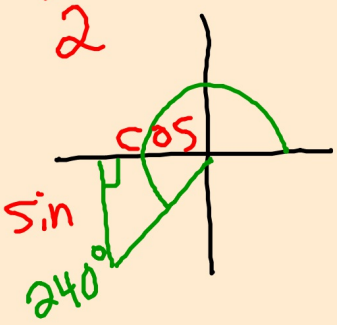
1. Sketch the angle.
2. Draw the special right triangle.
3. Find trignometric value.

Example 2:

Find the exact trigonometric value.

$$\sin(240°) = -\frac{1}{2}$$



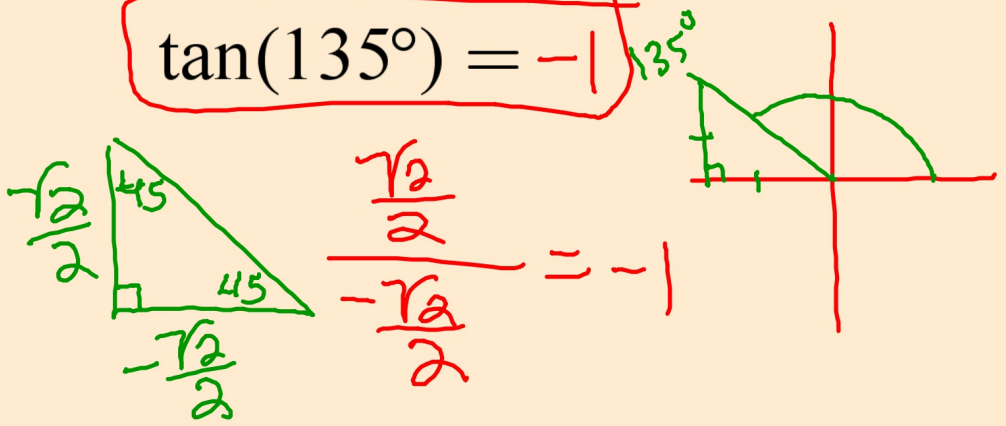


1. Sketch the angle.
2. Draw the special right triangle.
3. Find trignometric value.

Example 3:

Find the exact trigonometric value.

$$\tan(135°) = -1$$



1. Sketch the angle.
2. Draw the special right triangle.
3. Find trignometric value.

4 IN A ROW!

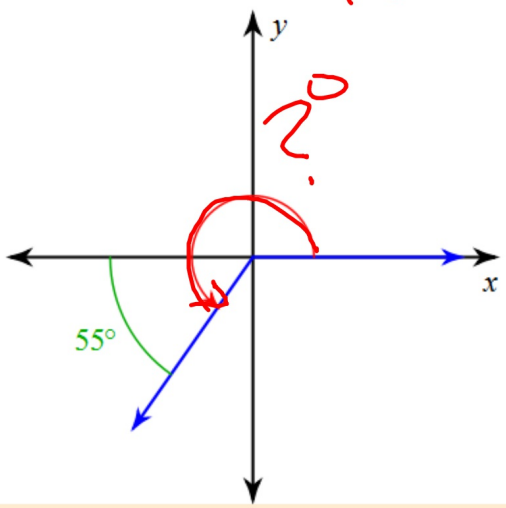
Create a unique game board (write 1-16 randomly on a 4x4 grid in your notebook)

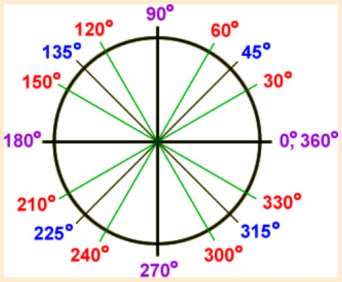
	14		10
5		3	
	8		11

Find the measure of each angle.

$180+55 = 235^{\circ}$

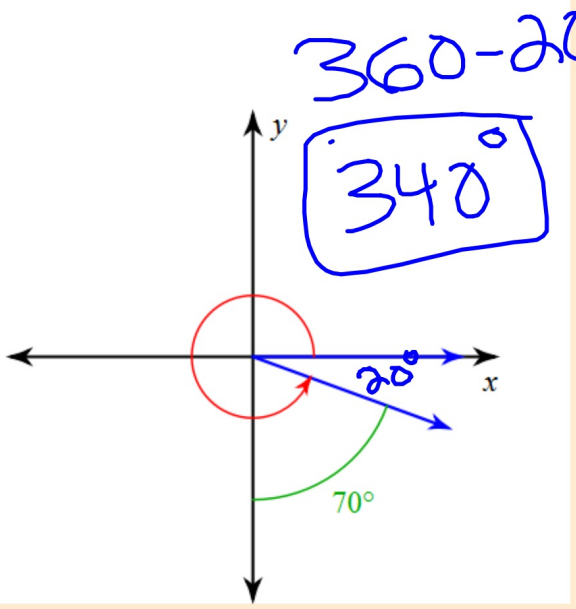
1)





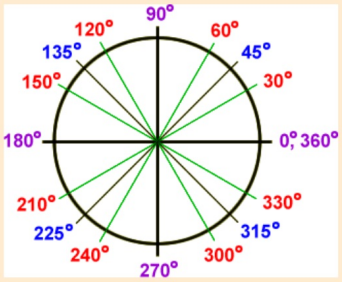
Find the measure of each angle.

2)



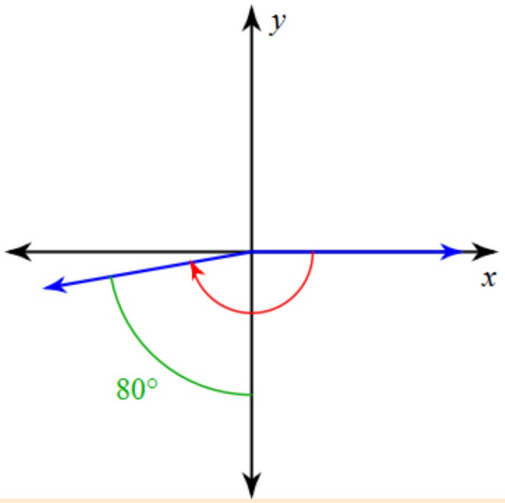
360-20

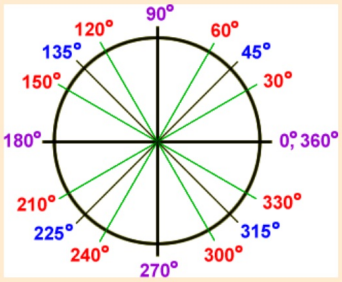
340°



Find the measure of each angle.

3)

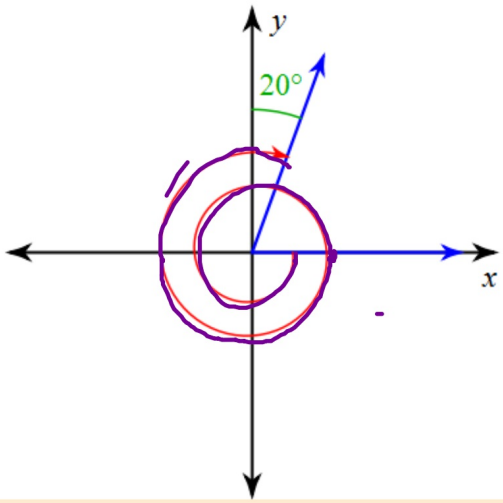


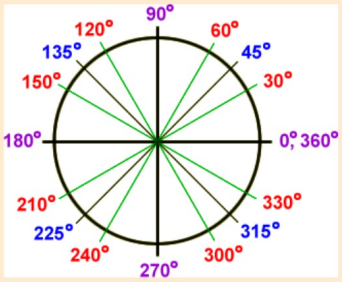


Find the measure of each angle.

$360+270+20 = 650°$

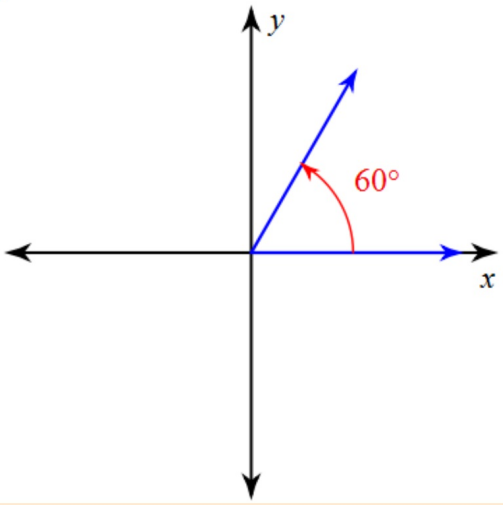
4)

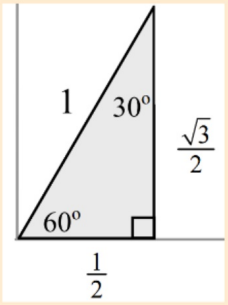




Find the exact value of each trigonometric function. Draw the special right triangles!

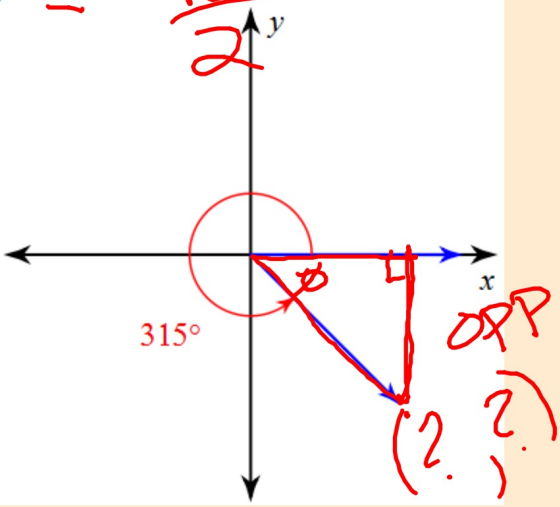
5) $\sin\theta$

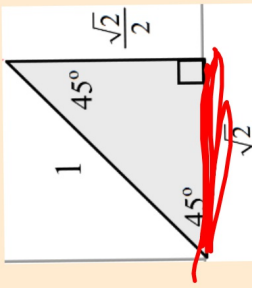




Find the exact value of each trigonometric function. Draw the special right triangles!

6) $\sin\theta = -\frac{\sqrt{2}}{2}$

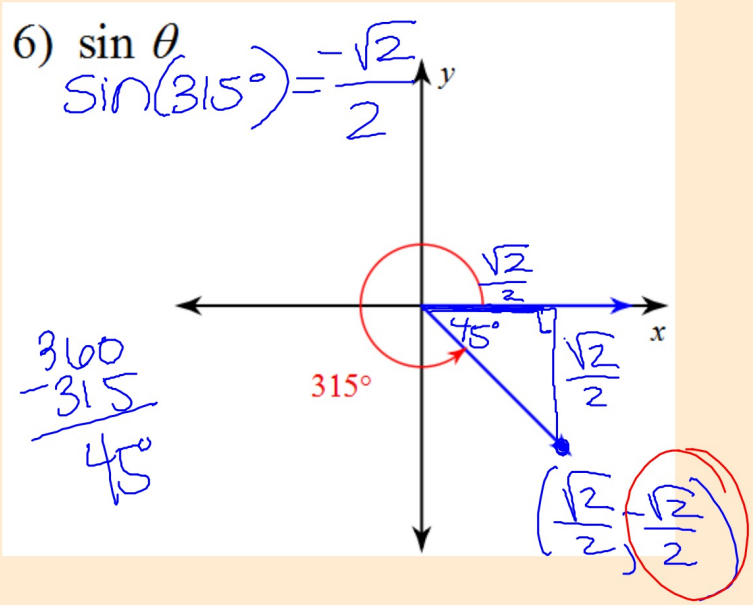




Find the exact value of each trigonometric function. Draw the special right triangles!

6) $\sin\theta$

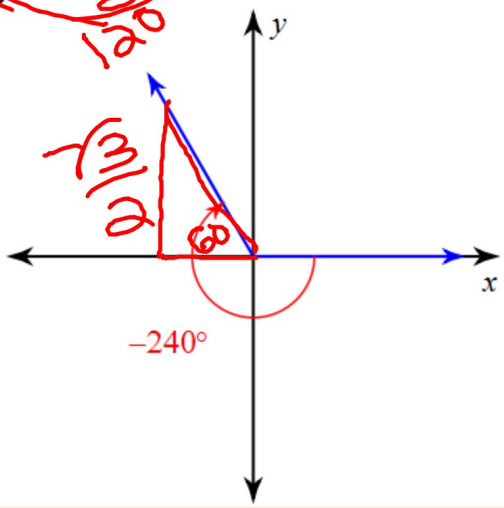
$\sin(315°) = \frac{-\sqrt{2}}{2}$

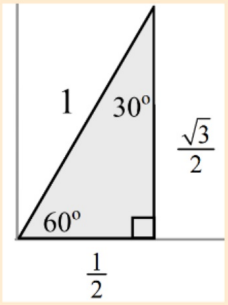


$360 - 315 = 45°$

Find the exact value of each trigonometric function. ~~Draw~~ the special right triangles!

7) $\sin\theta$

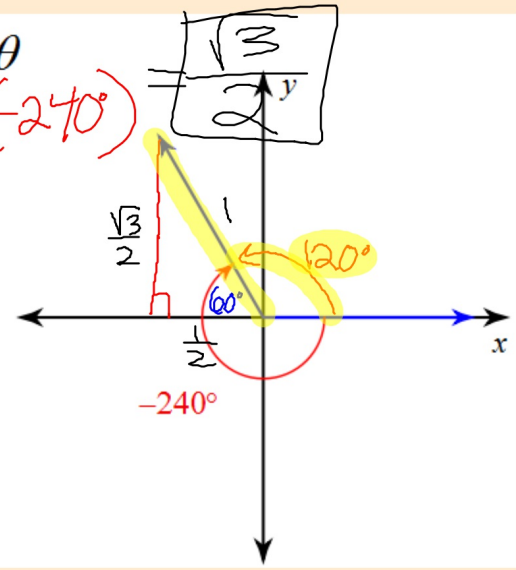




Find the exact value of each trigonometric function. Draw the special right triangles!

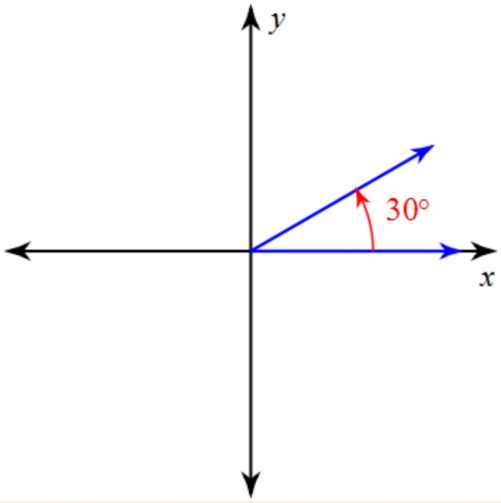
7) $\sin\theta$

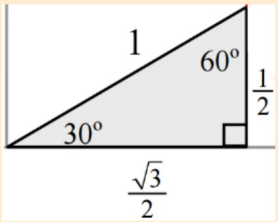
$\sin(-240°)$



Find the exact value of each trigonometric function. Draw the special right triangles!

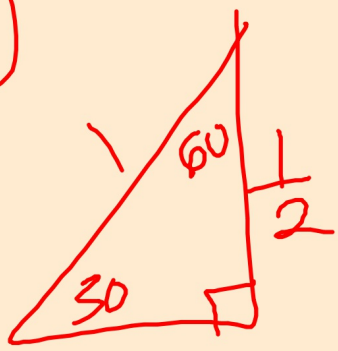
8) $\tan \theta$





Find the exact value of each trigonometric function. Draw the special right triangles!

9) $\sin 30°$ $\frac{1}{2}$



Find the exact value of each trigonometric function. Draw the special right triangles!

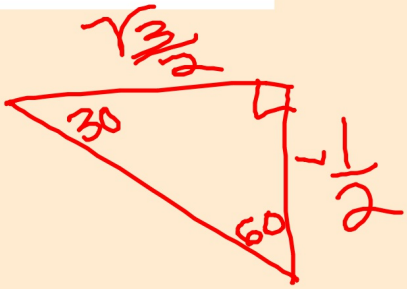
10) $\sin 90^\circ$

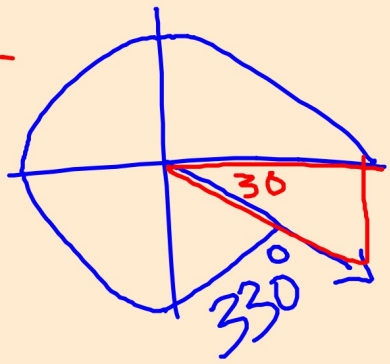
Find the exact value of each trigonometric function. Draw the special right triangles!

11) $\sin 225°$

Find the exact value of each trigonometric function. Draw the special right triangles!

12) $\cos 330°$ $= \frac{\sqrt{3}}{2}$

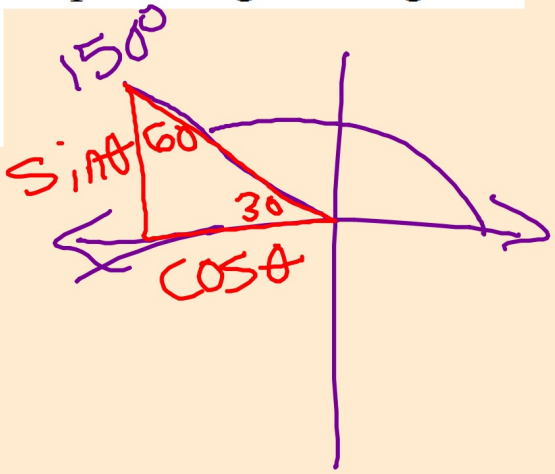




Find the exact value of each trigonometric function. Draw the special right triangles!

13) $\cos 150°$

$-\frac{\sqrt{3}}{2}$

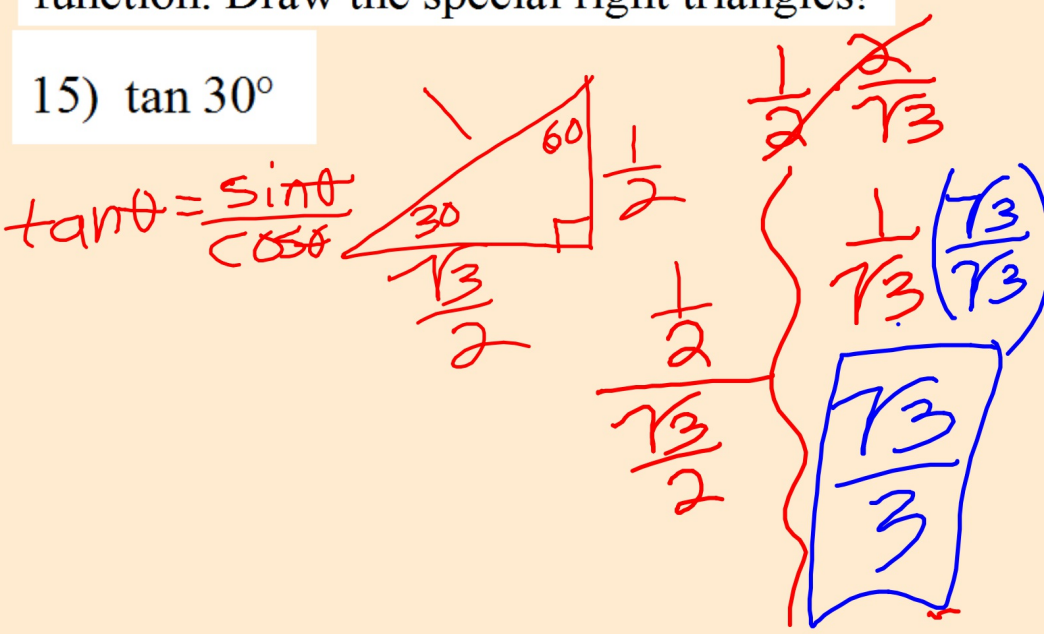


Find the exact value of each trigonometric function. Draw the special right triangles!

14) $\cos 120^\circ$

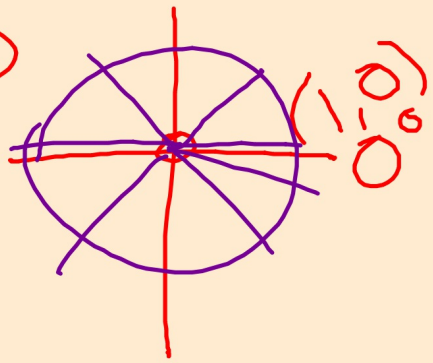
Find the exact value of each trigonometric function. Draw the special right triangles!

15) tan 30°



Find the exact value of each trigonometric function. Draw the special right triangles!

16) $\tan 0° = \frac{0}{1} = 0$



$\tan\theta = \frac{\sin\theta}{\cos\theta}$

$(\cos\theta, \sin\theta)$

Exercises...

Finish Trigonometric Problem Solving Review Worksheet

Solutions

1) $235°$
2) $340°$
3) $-170°$
4) $-650°$
5) $\frac{\sqrt{3}}{2}$
6) $-\frac{\sqrt{2}}{2}$
7) $\frac{\sqrt{3}}{2}$
8) $\frac{\sqrt{3}}{3}$
9) $\frac{1}{2}$
10) 1
11) $-\frac{\sqrt{2}}{2}$
12) $\frac{\sqrt{3}}{2}$
13) $-\frac{\sqrt{3}}{2}$
14) $-\frac{1}{2}$
15) $\frac{\sqrt{3}}{3}$
16) 0