

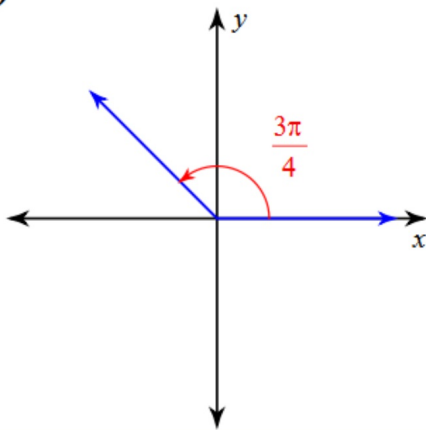
## Welcome Back MYP Math 9!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
<b>Monday</b> Date: <u>12/18</u> Topic: <u>Unit Circle Problem Solving</u>	0 1 2	
<b>Tuesday</b> Date: <u>12/19</u> Topic: <u>Radians</u>	0 1 2	
<b>Wednesday</b> Date: <u>12/20</u> Topic: <u>Quiz 4.1 Review</u>	0 1 2	
<b>Thursday</b> Date: _____ Topic: _____	0 1 2	
<b>Friday</b> Date: _____ Topic: _____	0 1 2	

## Warm-up:

Find the exact value of the trigonometric function.

$\tan \theta$

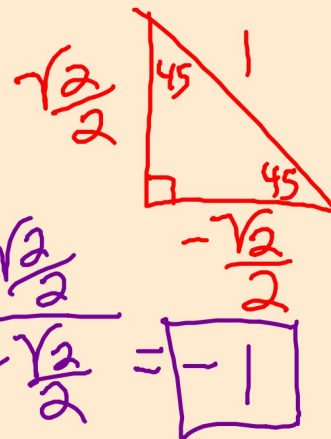
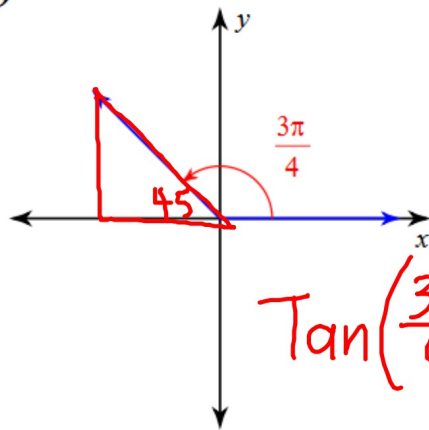


Which special right triangle should be drawn?

## Warm-up:

Find the exact value of the trigonometric function.

$\tan \theta$



$$\tan\left(\frac{3\pi}{4}\right) = \frac{\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = \boxed{-1}$$

Which special right triangle should be drawn?

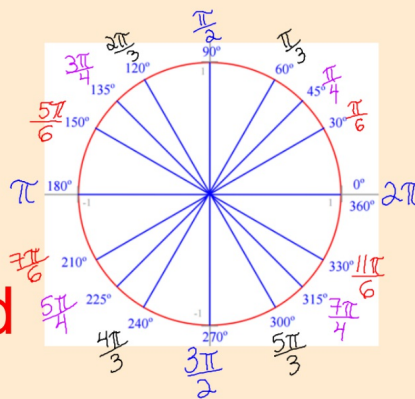
45-45-90

## Class Plan:

1. Warm-up

2. Go over expected topics for Quiz 4.1

3. Review for Quiz 4.1



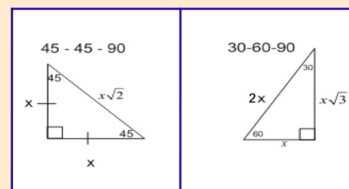
# Unit 4: Radicals & The Unit Circle

## Quiz 4.1

### 1. Simplifying Radicals (Sections 5A/B/C)

$$\begin{aligned} &\sqrt{72} \\ &= 6\sqrt{2} \end{aligned}$$

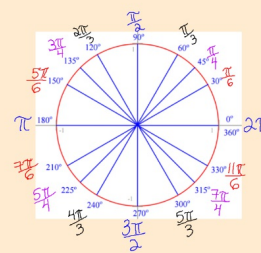
### 2. Special Right Triangles



### 3. The Unit Circle

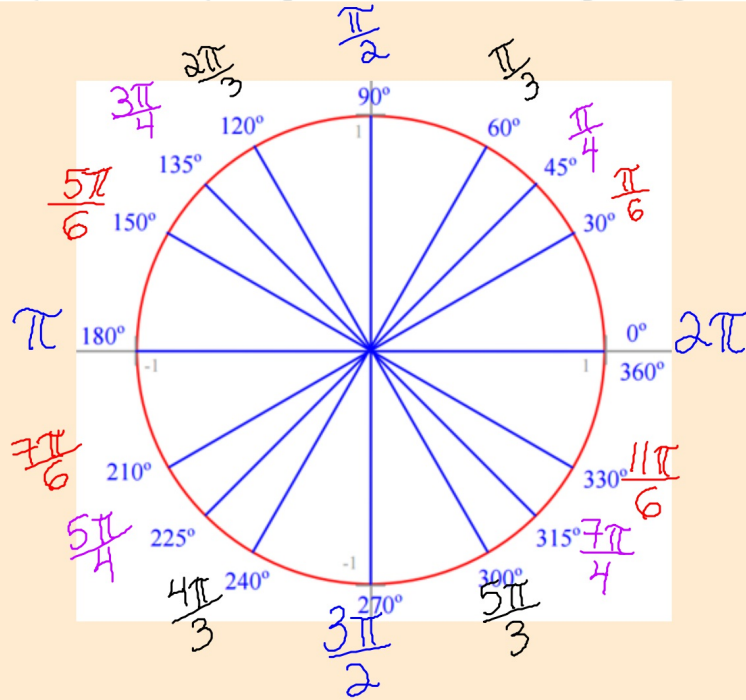
- Sketch angles and Special Rights
- Find the Trigonometric Values (coordinate points)

\*\*\* Use review handouts to study for Quiz tomorrow! Work together!



## The Unit Circle - Radians and Degrees

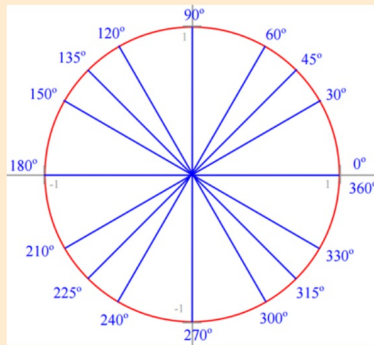
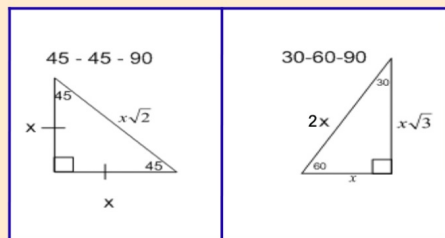
Part A: Complete the corresponding radian measures for each given degree measure.



## Exercises... Study!

(complete all review handouts)

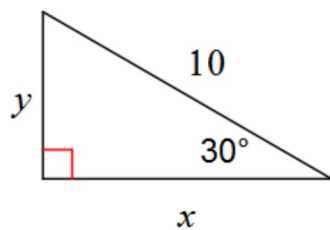
\*\*\*Special Right Triangle patterns and degree unit circle will be on the rubric tomorrow!... be prepared to use your special right triangles to generate Unit Circle coordinate values.



## Special Right Triangle Review

Find the missing side lengths. Leave your answers as radicals in simplest form.

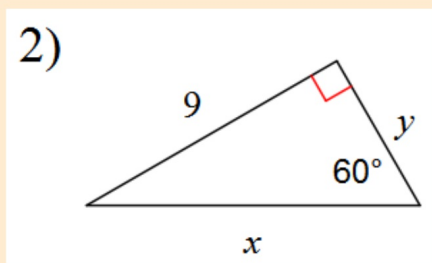
1)





## Special Right Triangle Review

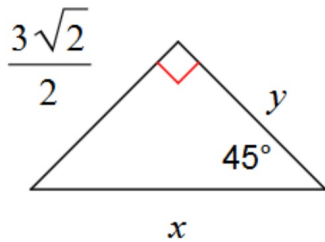
Find the missing side lengths. Leave your answers as radicals in simplest form.



## Special Right Triangle Review

Find the missing side lengths. Leave your answers as radicals in simplest form.

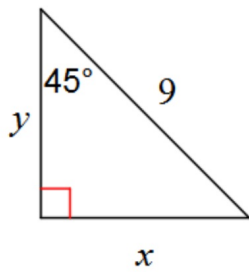
3)



## Special Right Triangle Review

Find the missing side lengths. Leave your answers as radicals in simplest form.

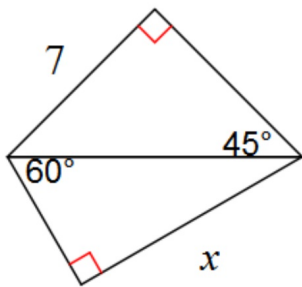
4)



## Special Right Triangle Review

Find the missing side lengths. Leave your answers as radicals in simplest form.

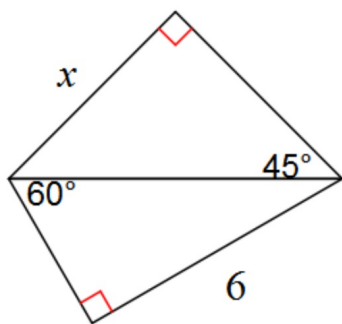
5)



## Special Right Triangle Review

Find the missing side lengths. Leave your answers as radicals in simplest form.

6)



## Radical Review

Simplify.

$$7) \sqrt{75}$$

$$8) \sqrt{567}$$

$$9) \sqrt{4} \cdot \sqrt{5}$$

## Radical Review

Simplify.

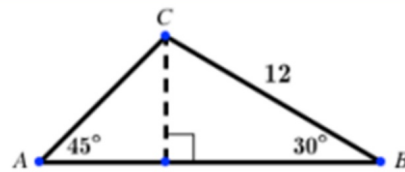
$$10) 4\sqrt{3} \cdot 3\sqrt{6}$$

$$11) \frac{4\sqrt{2}}{\sqrt{18}}$$

$$12) \frac{5\sqrt{10}}{3\sqrt{5}}$$

## Special Right Triangle Review

In  $\triangle ABC$ ,  $m\angle A = 45^\circ$  and  $m\angle B = 30^\circ$  as shown in *Figure 1*. If  $BC = 12$ , determine exactly the length  $AC$ .

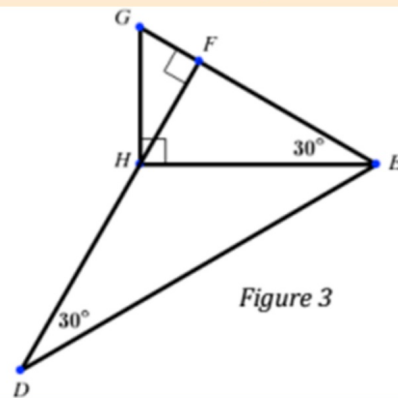


*Figure 1*



## Special Right Triangle Review

Triangles  $DEF$  and  $EGH$  are both right triangles, with  $m\angle D = m\angle GEH = 30^\circ$ , as shown in *Figure 3*.  
If  $EG = 12$ , determine exactly the length  $DH$ .



*Figure 3*

Convert each degree measure into radians.

1)  $240^\circ$

2)  $30^\circ$

Convert each degree measure into radians.

3)  $390^\circ$

4)  $225^\circ$

Convert each radian measure into degrees.

$$5) \frac{11\pi}{6}$$

Convert each radian measure into degrees.

6)  $\frac{\pi}{3}$

Convert each radian measure into degrees.

$$7) \frac{7\pi}{6}$$

Convert each radian measure into degrees.

8)  $\frac{7\pi}{3}$

Find the exact value of each trigonometric function.

$$9) \cos \frac{7\pi}{4}$$



Find the exact value of each trigonometric function.

$$10) \cos \frac{8\pi}{3}$$

Find the exact value of each trigonometric function.

11)  $\cos \frac{\pi}{2}$

Find the exact value of each trigonometric function.

$$12) \cos \frac{7\pi}{6}$$

Find the exact value of each trigonometric function.

$$13) \cos \frac{3\pi}{2}$$

Find the exact value of each trigonometric function.

$$14) \tan \frac{\pi}{2}$$

Find the exact value of each trigonometric function.

$$15) \tan \frac{4\pi}{3}$$

Find the exact value of each trigonometric function.

16)  $\cos 2\pi$

## Special Right Triangle Radical Solutions

- |   |                               |                                 |                  |
|---|-------------------------------|---------------------------------|------------------|
| 1) $x=5\sqrt{3}, y=5$                             | 2) $x=6\sqrt{3}, y=3\sqrt{3}$ | 3) $x=3, y=\frac{3\sqrt{2}}{2}$ |                  |
| 4) $x=\frac{9\sqrt{2}}{2}, y=\frac{9\sqrt{2}}{2}$ | 5) $\frac{7\sqrt{6}}{2}$      | 6) $2\sqrt{6}$                  |                  |
| 7) $5\sqrt{3}$                                    | 8) $9\sqrt{7}$                | 9) $2\sqrt{5}$                  | 10) $36\sqrt{2}$ |
| 11) $\frac{4}{3}$                                 | 12) $\frac{5\sqrt{2}}{3}$     |                                 |                  |

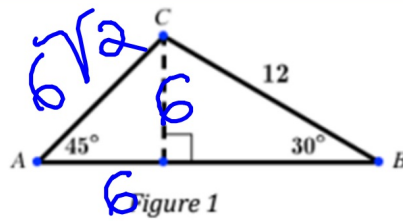
## Unit Circle/Radian Solutions

- |                         |                    |                      |                           |
|-------------------------|--------------------|----------------------|---------------------------|
| 1) $\frac{4\pi}{3}$     | 2) $\frac{\pi}{6}$ | 3) $\frac{13\pi}{6}$ | 4) $\frac{5\pi}{4}$       |
| 5) $330^\circ$          | 6) $60^\circ$      | 7) $210^\circ$       | 8) $420^\circ$            |
| 9) $\frac{\sqrt{2}}{2}$ | 10) $-\frac{1}{2}$ | 11) 0                | 12) $-\frac{\sqrt{3}}{2}$ |
| 13) 0                   | 14) Undefined      | 15) $\sqrt{3}$       | 16) 1                     |



## Solutions to math team problems

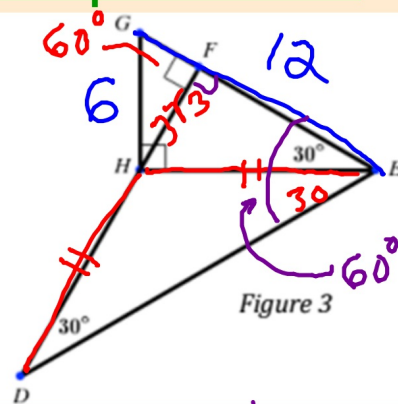
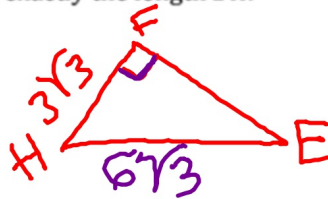
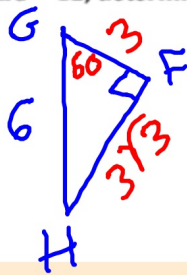
In  $\triangle ABC$ ,  $m\angle A = 45^\circ$  and  $m\angle B = 30^\circ$  as shown in Figure 1. If  $BC = 12$ , determine exactly the length  $AC$ .



$$AC = 6\sqrt{2}$$

## Solutions to math team problems

Triangles  $DEF$  and  $EGH$  are both right triangles, with  $m\angle D = m\angle GEH = 30^\circ$ , as shown in Figure 3. If  $EG = 12$ , determine exactly the length  $DH$ .



$\triangle DHE$  is isosceles

$$DH = HE$$

$$DH = 6\sqrt{3}$$