

Alg 2 Trig – Day 11

Radian Review! 😊

Name Key

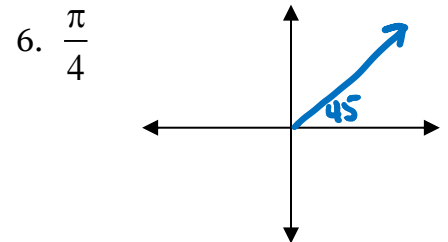
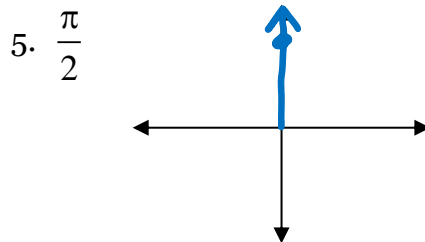
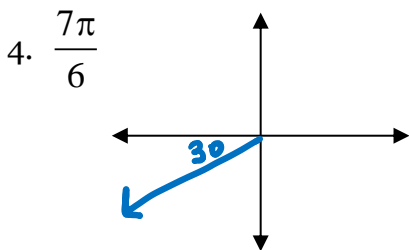
Convert into degrees or radians.

1. $210^\circ \cdot \frac{\pi}{180} = \boxed{\frac{7\pi}{6}}$

2. $\frac{5\pi}{3} \cdot \frac{180}{\pi} = \boxed{300^\circ}$

3. $\frac{-13\pi}{4} \cdot \frac{180}{\pi} = \boxed{-585^\circ}$

Draw an angle in standard position (the rotation angle) and give the reference angle (if there is one) in radians:



Ref $\angle = \underline{30^\circ = \frac{\pi}{6}}$

Ref $\angle = \underline{\text{none}}$

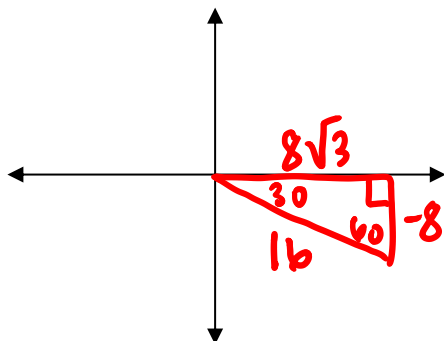
Ref $\angle = \underline{45^\circ = \frac{\pi}{4}}$

In the next problems, a terminal point is given:

- a) Plot the coordinate
- b) Find the length of the hypotenuse, r .
- c) Use a trig equation to find the reference angle

- (d) Mark the rotation with an arc and its measure, θ .

7. $(8\sqrt{3}, -8)$

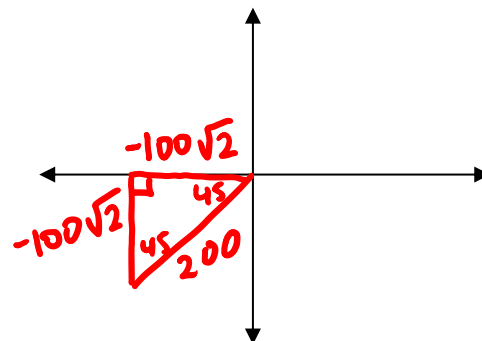


$r = 16$

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

$\theta = 330^\circ = \frac{11\pi}{6}$

8. $(-100\sqrt{2}, -100\sqrt{2})$



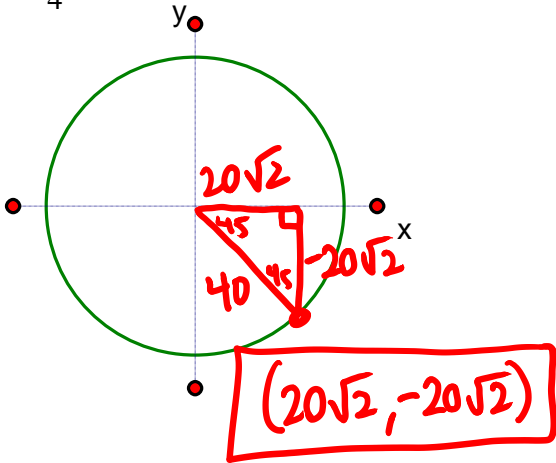
$r = 200$

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

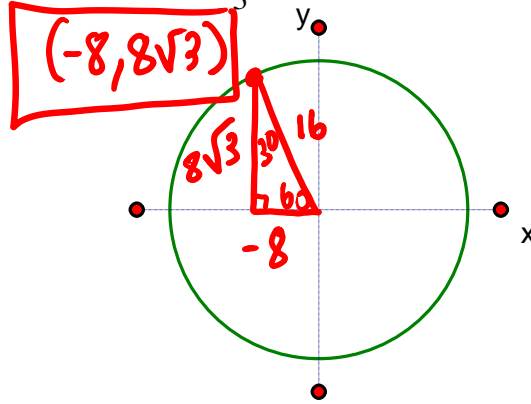
$\theta = 225^\circ = \frac{5\pi}{4}$

Draw the rotation angle (the angle in standard position) and find the terminal point.

9. $\theta = \frac{7\pi}{4}$ and radius = 40



10. $\theta = \frac{2\pi}{3}$ and radius = 16



Draw the rotation angle. Then find two positive and two negative angles that are coterminal with

11. $\frac{\pi}{6} \pm \frac{2\pi}{1}$

$\frac{\pi}{6} + \frac{12\pi}{6} = \boxed{\frac{13\pi}{6}}$

$\frac{\pi}{6} - \frac{12\pi}{6} = \boxed{-\frac{11\pi}{6}}$

12. $\frac{3\pi}{2} \pm \frac{2\pi}{1}$

$\frac{3\pi}{2} + \frac{4\pi}{2} = \boxed{\frac{7\pi}{2}}$

$\frac{3\pi}{2} - \frac{4\pi}{2} = \boxed{-\frac{\pi}{2}}$

A unit circle, if you would like to use ☺

