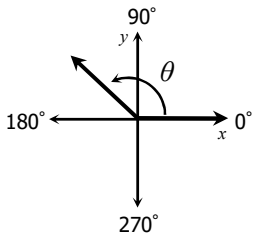
Name:	Class:
Topic:	Date:

Main Ideas/Questions	Notes

Angles in Standard Form

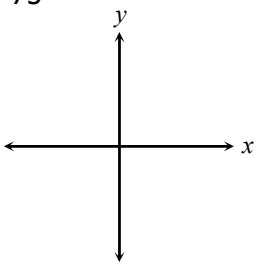


- An angle on the coordinate plane is in standard form when the vertex is on the origin and one ray lies on the positive x-axis.
- The ray on the x-axis is called the _____ _____.
- The other ray is called the _____ _____.
- Counterclockwise rotations result in _____ angle measures.
- Clockwise rotations result in _____ angle measures.
- One full revolution = _____.

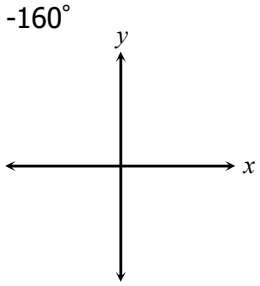
Drawing Angles

Directions: Sketch an angle with the given measure in standard position.

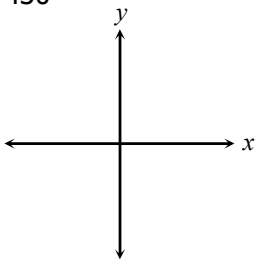
1. 75°



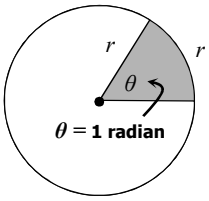
2. -160°



3. 430°



Radians vs. Degrees



A **radian** is a unit of angle measure based on arc length. One radian is defined as the measure of the angle formed when the radius is equivalent to the length of the intercepted arc. Recall that the circumference of a circle is $2r\pi$, therefore:

360° = _____; **180°** = _____

Converting Degrees → Radians	Converting Radians → Degrees
$\text{Radians} = \text{Degrees} \cdot \left(\frac{\pi \text{ radians}}{180}\right)$	$\text{Degrees} = \text{Radians} \cdot \left(\frac{180}{\pi \text{ radians}}\right)$

Degrees → Radians

Directions: Convert each measure to radians.

4. 30°

5. 150°

6. -220°

Radians → Degrees

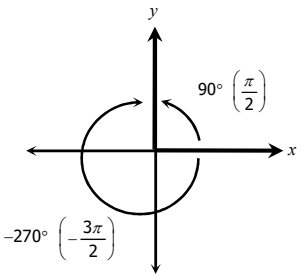
Directions: Convert each measure to degrees.

7. $\frac{4\pi}{3}$

8. $-\frac{5\pi}{36}$

9. $\frac{7\pi}{4}$

Coterminal Angles



Angles in standard position with the same terminal side are **coterminal angles**. Give two coterminal angles for each given angle, one positive and one negative:

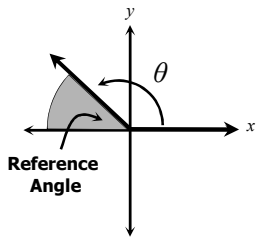
10. 65°

11. 540°

12. $\frac{13\pi}{18}$

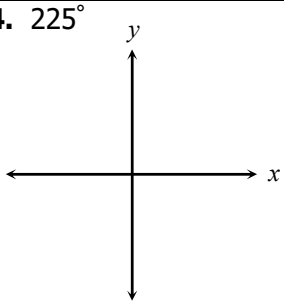
13. $\frac{14\pi}{9}$

Reference Angles

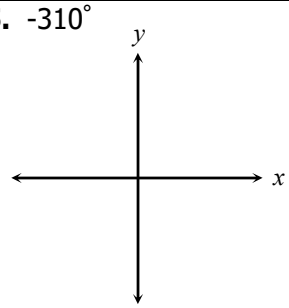


For an angle θ in standard form, the **reference angle** is the positive acute angle form by the terminal side and the x-axis. Sketch and find the reference angles for each angle:

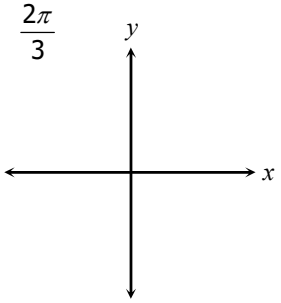
14. 225°



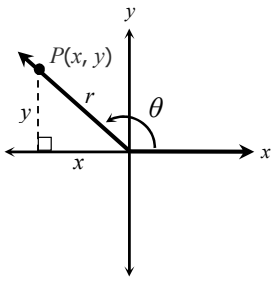
15. -310°



16. $\frac{2\pi}{3}$



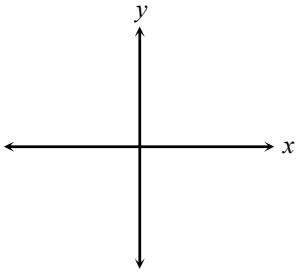
Trig Functions



Let θ be an angle in standard form and $P(x, y)$ be a point on the terminal side of θ. The distance from P to the the origin, r, can be found using the formula:

_____ (The Pythagorean Theorem).

$sin\ \theta\ =$	$cos\ \theta\ =$	$tan\ \theta\ =$
$csc\ \theta\ =$	$sec\ \theta\ =$	$cot\ \theta\ =$



17. $P(5, -2)$ is a point on the terminal side of θ in standard form. Find the exact values of the trigonometric functions of θ:

$sin\ \theta\ =$	$cos\ \theta\ =$	$tan\ \theta\ =$
$csc\ \theta\ =$	$sec\ \theta\ =$	$cot\ \theta\ =$