Date:

Objective:

How do you measure the length of a line? ────────────────────────

Just like measuring length has different units, angles also have 2 different units of measurements.

https://commons.wikimedia.org/wiki/File:Circle_radians.gif#/media/File:Circle_radians.gif

How many radians is a circle?
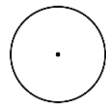
How many radians is half a circle?
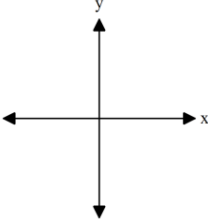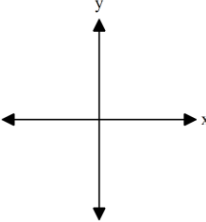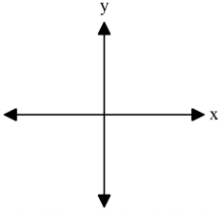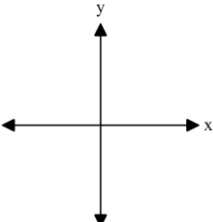
How many radians is quarter of a circle?

Notice that the formula for the circumference of a circle, _____, is the same as the radians if the radius is 1.

Since half of a circle is a whole π, we only need to divide the top into equal portions. The bottom will be a repeat of the top half of the circle. So, the entire circle has double the number of pieces as the denominator.
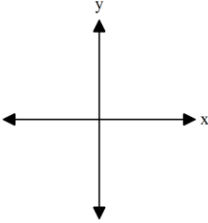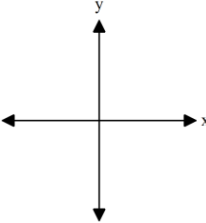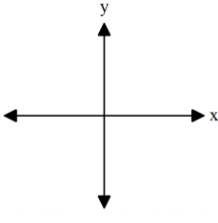
Shade the appropriate portion of the semi-circle.
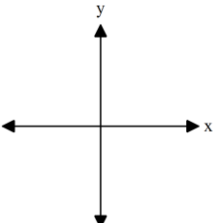
1. $\dfrac{1}{3}$	2. $\dfrac{2}{5}$	3. $\dfrac{\pi}{4}$ $\dfrac{4\pi}{4}$
4. $\dfrac{5\pi}{6}$ $\dfrac{6\pi}{6}$	5. $\dfrac{9\pi}{8}$ $\dfrac{8\pi}{8}$	6. $\dfrac{3\pi}{2}$ $\dfrac{2\pi}{2}$

Draw each angle in standard position.

1. $\dfrac{\pi}{3}$	2. $\dfrac{-19\pi}{9}$
3. $\dfrac{3\pi}{4}$	4. $-\dfrac{11\pi}{6}$
5. $\dfrac{-35\pi}{12}$	6. $\dfrac{67\pi}{18}$

Determine the reference angle, in radians, for each angle and draw it.

1. $\dfrac{\pi}{3}$	2. $\dfrac{-19\pi}{9}$
3. $\dfrac{3\pi}{4}$	4. $-\dfrac{11\pi}{6}$
5. $\dfrac{-35\pi}{12}$	6. $\dfrac{67\pi}{18}$

How many radians is one rotation or revolution (a complete circle)?

To find coterminal angles:

For positive angles, usually you _____ _____.

For negative angles, usually you _____ _____.
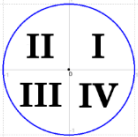

******REMEMBER that is the question starts in radians, your work and answer must also be radians!****

Find a positive and negative coterminal angle (in radians).

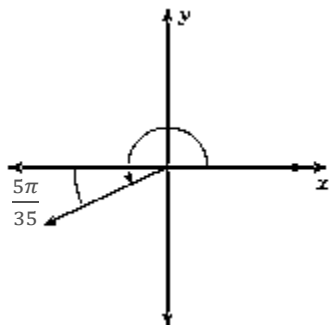| 1. $\dfrac{29\pi}{9}$	2. $\dfrac{23\pi}{45}$	3. $\dfrac{-9\pi}{4}$
4. $-\dfrac{2\pi}{3}$	5. $\dfrac{-5\pi}{4}$	6. $\dfrac{116\pi}{45}$

Once again knowing what quadrant the terminal side of an angle stops in will help you later in this unit with sine, cosine, and tangent.

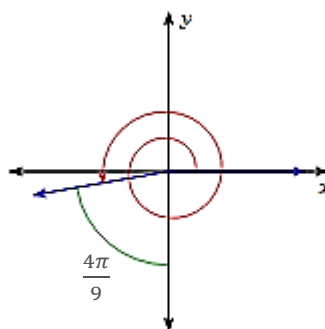Determine which quadrant each of the following angles terminate.

	1. $\dfrac{8\pi}{3}$	2. $\dfrac{9\pi}{4}$
	3. $-\dfrac{7\pi}{3}$	4. $\dfrac{-64\pi}{45}$

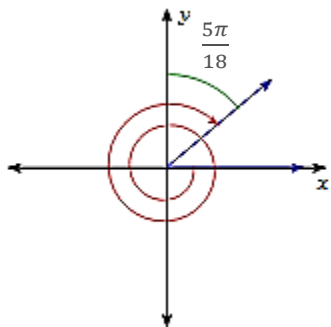Find the measure of each angle. Find the reference angle. Last, find a coterminal angle.

2.	
1. $\dfrac{5\pi}{35}$	$\dfrac{4\pi}{9}$
3. $\dfrac{5\pi}{18}$	4. $\dfrac{\pi}{3}$