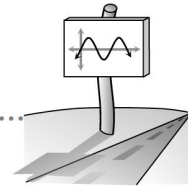


CW# \_\_\_\_\_

Name: \_\_\_\_\_

**2.2.1** You've got me going in circles.

Special Angles in the Unit Circle

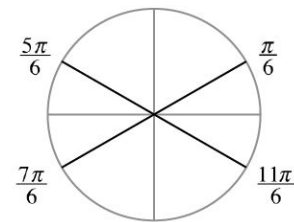


**#42** There are many patterns in the labeled unit circle you just completed. With your team, identify as many patterns as possible. Be prepared to share these patterns with the class.

**#43**

Look at the coordinates of all the special angles with a denominator of 6.

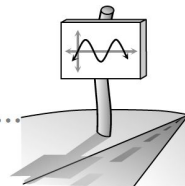
What do you notice? The angle  $\frac{\pi}{6}$  is called the **reference angle** of the angle and the x-axis.



What is the reference angle for  $\frac{4\pi}{3}$  ?

**2.2.1** You've got me going in circles.

Special Angles in the Unit Circle



**#44** What if an angle is negative or greater than  $2\pi$ ? Angles in these categories are coterminal with angles for which  $0 \leq \theta < 2\pi$ . Recall that **coterminal angles** are two (or more) angles that have their initial and terminal sides in the same positions.

For example,  $\frac{\pi}{2}$ ,  $-\frac{3\pi}{2}$ , and  $\frac{5\pi}{2}$  are coterminal angles.

For each angle given below, determine a coterminal angle,  $\alpha$ , such that  $0 \leq \alpha < 2\pi$ . Sketch the angle in a unit circle and write the corresponding coordinates of the point on the circle.

a.  $\theta = -\frac{\pi}{4}$

b.  $\theta = \frac{7\pi}{3}$

c.  $\theta = -\frac{5\pi}{6}$

d.  $\theta = \frac{11\pi}{4}$