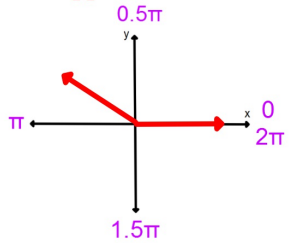
Tuesday, April 28, 2020

In which quadrant is Terminal Side - radians
and
Co-terminal angles in radians.

In what quadrant is the terminal side of this given angle?

1. $\theta = \frac{7\pi}{11}$



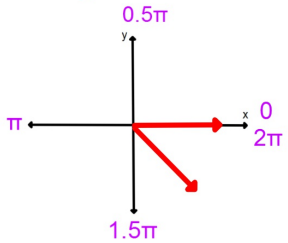
$\frac{7\pi}{11} \approx 0.64\pi$

0.64 is between 0.5 and 1.

Terminal side of θ is in Quadrant II.

In what quadrant is the terminal side of this given angle?

2. $\theta = \frac{16\pi}{9}$



$\frac{16\pi}{9} \approx 1.78\pi$

1.78 is between 1.5 and 2.

Terminal side of θ is in Quadrant IV.

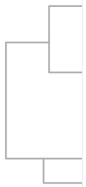
Coterminal angles stop in the same spot.
(same terminal side)

To get this to happen you can simply make any number of full revolutions past the original stopping point.

To find a coterminal of an angle that is measured in degrees you:

add or subtract any multiple of 360° to/from the original angle.

To find a coterminal of an angle that is measured in radians you add or subtract any multiple of 2π to/from the original angle.



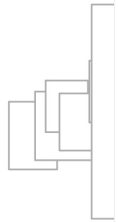
Find a coterminal angle, in radians, whose measure is from 0 to 2π ($0 \le \theta \le 2\pi$).

$\theta = \frac{13\pi}{3}$

Coterminal: $\frac{13\pi}{3} - 2\pi \rightarrow 2\pi = \frac{6\pi}{3}$

$= \frac{13\pi}{3} - \frac{6\pi}{3} = \frac{7\pi}{3}$

$= \frac{7\pi}{3} - \frac{6\pi}{3} = \boxed{\frac{\pi}{3}}$

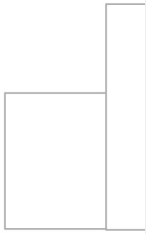


Find a coterminal angle, in radians, whose measure is from 0 to 2π ($0 \le \theta \le 2\pi$).

$\theta = \frac{40\pi}{11}$

Coterminal: $\frac{40\pi}{11} - 2\pi \rightarrow 2\pi = \frac{22\pi}{11}$

$= \frac{40\pi}{11} - \frac{22\pi}{11} = \boxed{\frac{18\pi}{11}}$



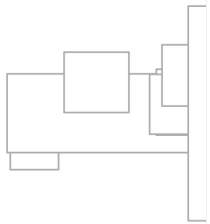
Find a coterminal angle, in radians, whose measure is from 0 to 2π ($0 \le \theta \le 2\pi$).

$\theta = \frac{-15\pi}{4}$

Coterminal: $\frac{-15\pi}{4} + 2\pi \rightarrow 2\pi = \frac{8\pi}{4}$

$= \frac{-15\pi}{4} + \frac{8\pi}{4} = \frac{-7\pi}{4}$

$= \frac{-7\pi}{4} + \frac{8\pi}{4} = \boxed{\frac{\pi}{4}}$



You should now be able to do
the second half of Practice #22.

This practice will be due by
10:00pm on Thursday, April 30.