

Algebra 2YD

13-2 Notes (Day 2): Angles in Radians

Name:

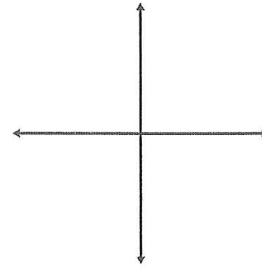
Date:

In Day 1, we:

- Converted angles between degrees and radians
- Found coterminal angles in radians

In Day 2:

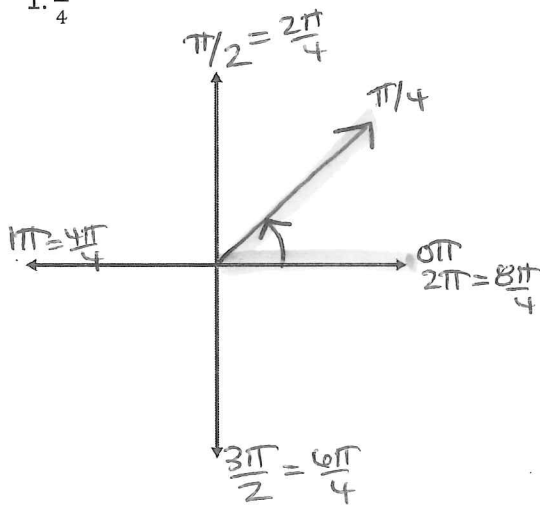
- Graph angles in radians
- Find reference angles in degrees & radians



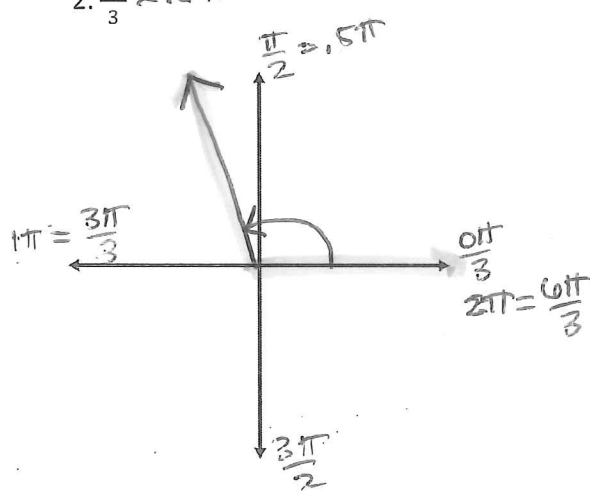
When graphing angles in radians, it helps to think about either  $\pi$  or  $2\pi$  as a fraction, using a common denominator with the given angle.

**Examples:** Draw each angle.

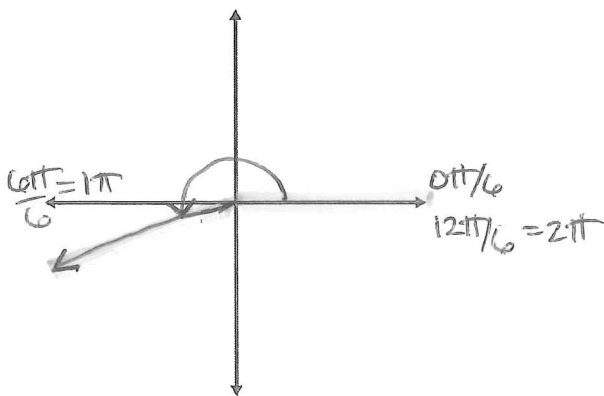
1.  $\frac{\pi}{4}$



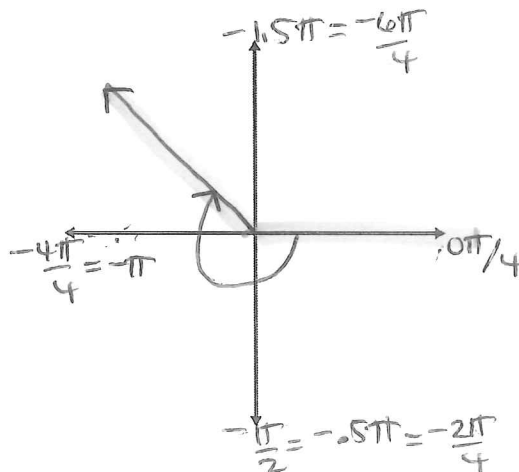
2.  $\frac{2\pi}{3} \approx 1.6\pi$



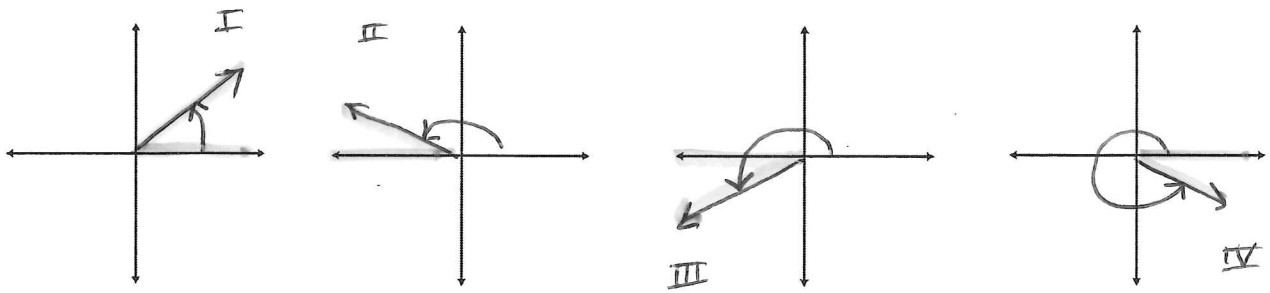
3.  $\frac{7\pi}{6} = 1.16\pi$



4.  $-\frac{5\pi}{4} = -1.25\pi$



A reference angle is an acute angle formed between a terminal side and the x-axis.



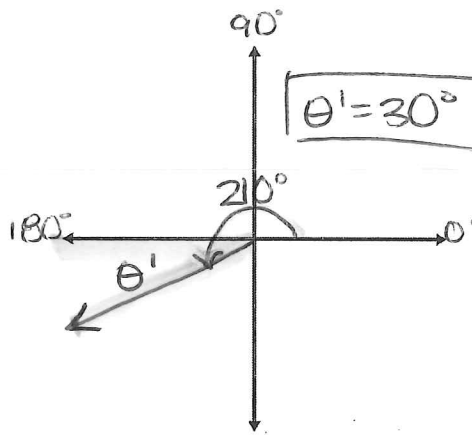
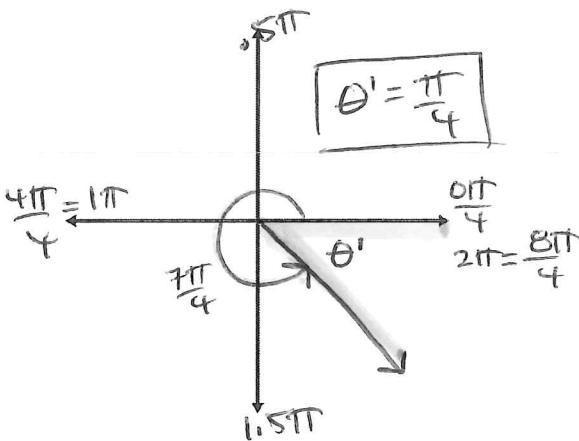
$\theta'$ : reference angle  $\Rightarrow$  Always positive & acute  
(btwn  $0^\circ/90^\circ$  &  $0\pi/\pi/2$ )

**NOTE:** When working with radians, this is much easier if you use common denominators when finding the difference between the given angle and  $\pi$  or  $2\pi$ .

**Examples:** Draw each angle, then find each reference angle.

5.  $\frac{7\pi}{4} = 1.75\pi$

6.  $210^\circ$



7.  $-\frac{5\pi}{6}$

8.  $-300^\circ$

