

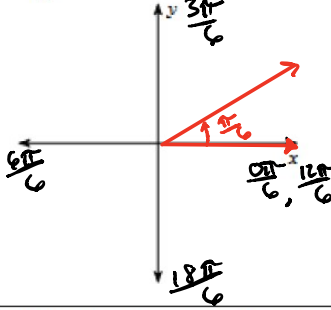
# The Trigonometric Functions

## 18.2 – Angles & Radians

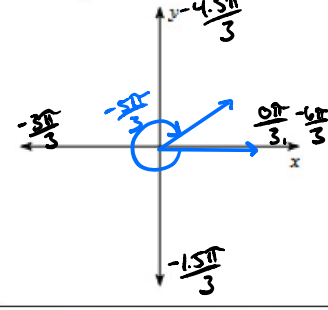
Name \_\_\_\_\_

Draw an angle with the given measure in standard position.

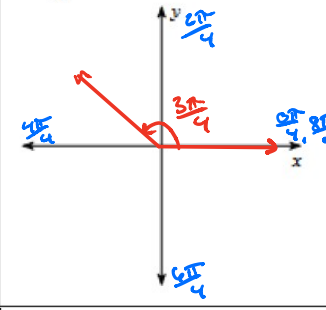
1.  $\frac{\pi}{6}$



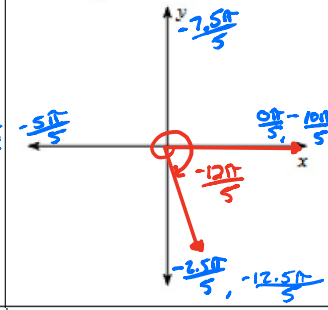
2.  $-\frac{5\pi}{3}$



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

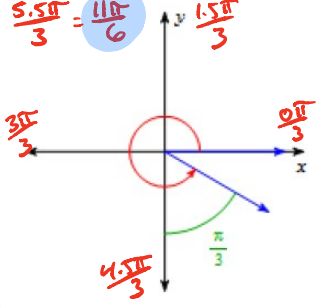


4.  $-\frac{12\pi}{5}$

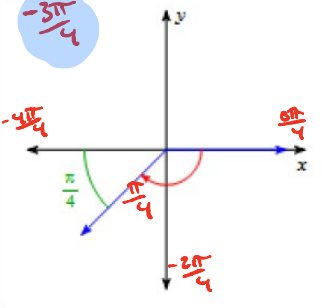


Find the measure of each angle. (IN RADIANS!)

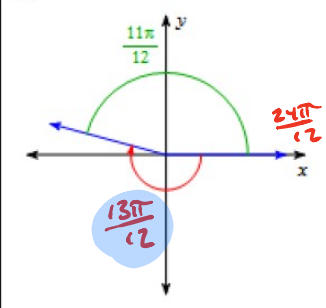
5.



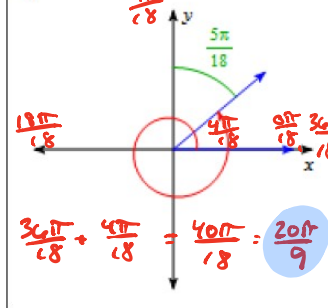
6.



7.

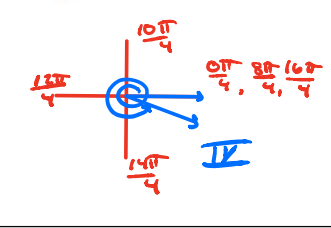


8.

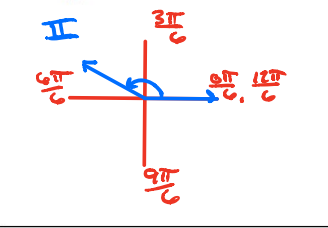


State the quadrant in which the terminal side of each angle lies.

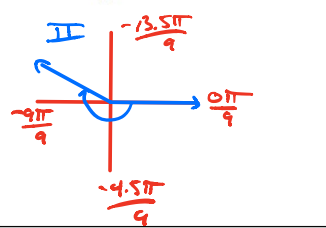
9.  $\frac{15\pi}{4}$



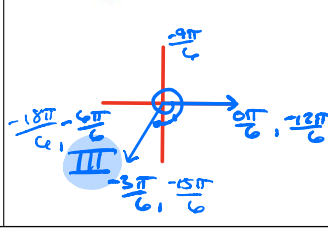
10.  $\frac{5\pi}{6}$



11.  $-\frac{10\pi}{9}$



12.  $-\frac{17\pi}{6}$



Find one positive and one negative coterminal angle the angle given. (IN RADIANS!)

13.  $\frac{\pi}{3}$

+ coterminal =  $\frac{\pi}{3} + \frac{6\pi}{3} = \frac{7\pi}{3}$   
 - coterminal =  $\frac{\pi}{3} - \frac{6\pi}{3} = -\frac{5\pi}{3}$

14.  $\frac{5\pi}{4}$

+ coterminal =  $\frac{5\pi}{4} + \frac{8\pi}{4} = \frac{13\pi}{4}$   
 - coterminal =  $\frac{5\pi}{4} - \frac{8\pi}{4} = -\frac{3\pi}{4}$

Find a coterminal angle between 0 and  $2\pi$ .

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

(1 Rev)  
 coterminal =  $\frac{9\pi}{4} - \frac{8\pi}{4} = \frac{\pi}{4}$

16.  $\frac{13\pi}{2}$

(3 Rev)  
 coterminal =  $\frac{13\pi}{2} - \frac{12\pi}{2} = \frac{\pi}{2}$

# The Trigonometric Functions

18.2 – Angles & Radians

Name \_\_\_\_\_

**Convert each degree measure into radians.**

19.  $225^\circ$

$$\frac{225^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{5\pi}{4}$$

20.  $280^\circ$

$$\frac{280^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{14\pi}{9}$$

21.  $-210^\circ$

$$\frac{-210^\circ}{1} \cdot \frac{\pi}{180^\circ} = -\frac{7\pi}{6}$$

22.  $-1020^\circ$

$$\frac{-1020^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{-51\pi}{9} = \frac{-17\pi}{3}$$

**Convert each radian measure into degrees.**

23.  $-\frac{5\pi}{9}$

$$\frac{-5\pi}{9} \cdot \frac{180^\circ}{\pi} = -100^\circ$$

24.  $\frac{5\pi}{6}$

$$\frac{5\pi}{6} \cdot \frac{180^\circ}{\pi} = 150^\circ$$

25.  $\frac{23\pi}{36}$

$$\frac{23\pi}{36} \cdot \frac{180^\circ}{\pi} = 115^\circ$$

26.  $\frac{79\pi}{18}$

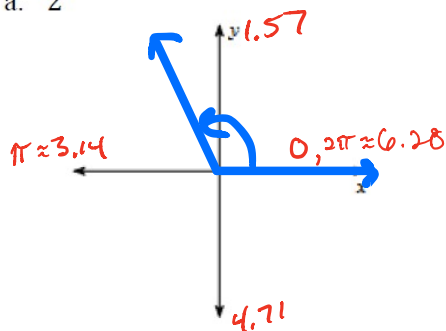
$$\frac{79\pi}{18} \cdot \frac{180^\circ}{\pi} = 790^\circ$$

3. Some people really freak out when they see an angle measurement in radians without pi. Don't freak out!

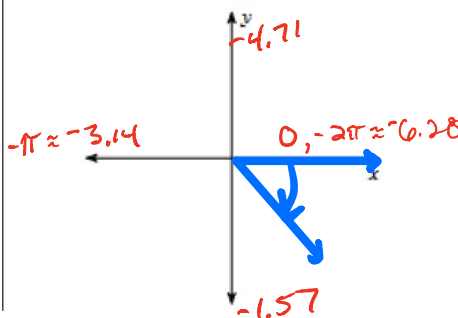
Remember pi is just a number, so think of  $\pi$  as 3.14,  $\frac{\pi}{2}$  as 1.57, etc...

Draw the angle with the given radian measure in standard position.

a. 2



b. -1.2



c. 5

