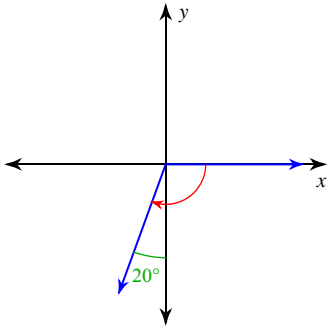


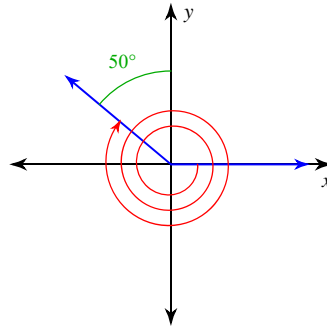
Angles and Angle Measure

Find the measure of each angle.

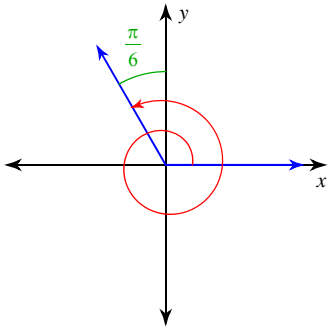
1)



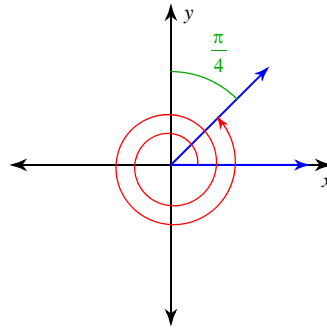
2)



3)

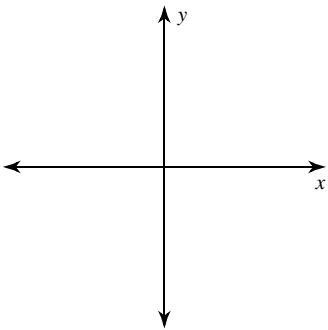


4)

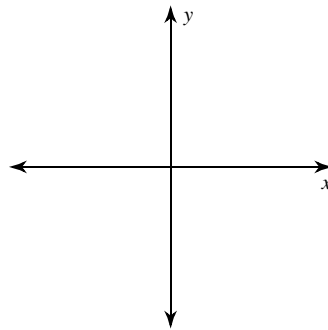


Draw an angle with the given measure in standard position.

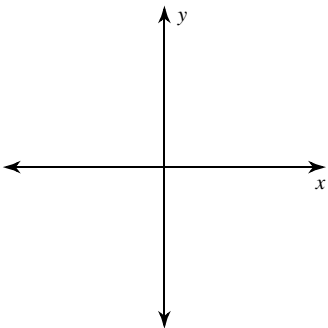
5) $\frac{5\pi}{4}$



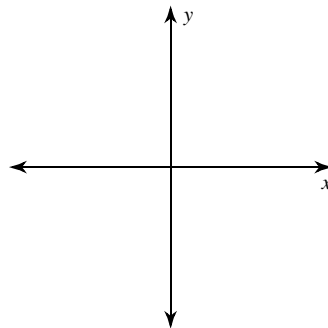
6) $-\frac{47\pi}{18}$



7) 170°



8) 510°



Find the reference angle.

9) $-\frac{47\pi}{12}$

10) $-\frac{5\pi}{4}$

11) $-\frac{9\pi}{4}$

12) 530°

13) 290°

14) -140°

Convert each degree measure into radians.

15) 240°

16) 315°

17) 125°

18) -340°

Convert each radian measure into degrees.

19) $\frac{19\pi}{4}$

20) $\frac{\pi}{4}$

21) $-\frac{43\pi}{18}$

22) $-\frac{31\pi}{18}$

Critical thinking questions:

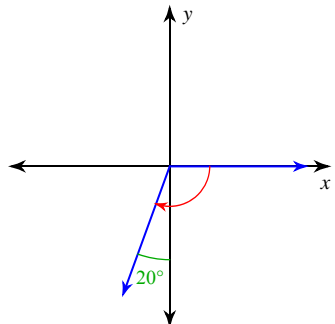
23) Find five angles that have a reference angle of $\frac{\pi}{6}$.

24) How many solutions are there to the equation:
 $x^\circ = x$ radians

Angles and Angle Measure

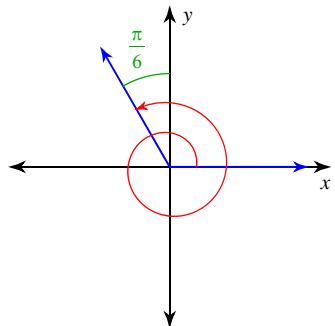
Find the measure of each angle.

1)



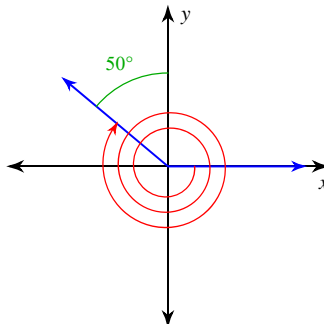
-110°

3)



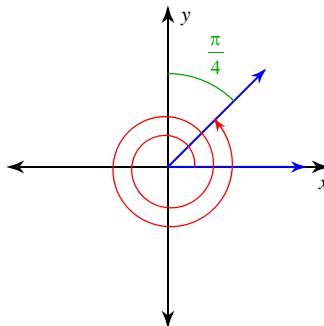
$\frac{8\pi}{3}$

2)



-940°

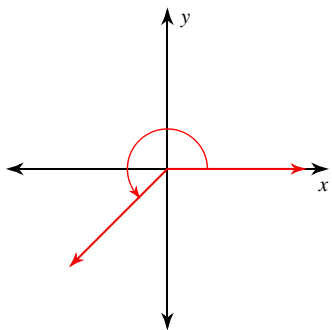
4)



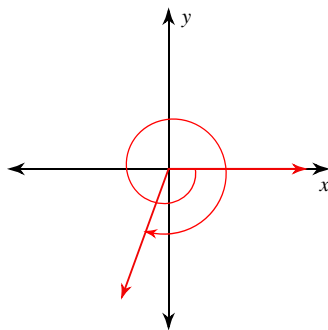
$\frac{17\pi}{4}$

Draw an angle with the given measure in standard position.

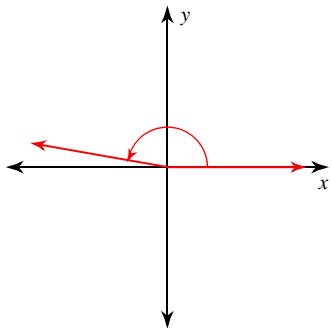
5) $\frac{5\pi}{4}$



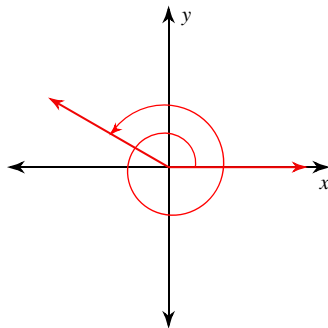
6) $-\frac{47\pi}{18}$



7) 170°



8) 510°



Find the reference angle.

9) $-\frac{47\pi}{12}$

$\frac{\pi}{12}$

10) $-\frac{5\pi}{4}$

$\frac{\pi}{4}$

11) $-\frac{9\pi}{4}$

$\frac{\pi}{4}$

12) 530°

10°

13) 290°

70°

14) -140°

40°

Convert each degree measure into radians.

15) 240°

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

16) 315°

$\frac{7\pi}{4}$

17) 125°

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

18) -340°

$-\frac{17\pi}{9}$

Convert each radian measure into degrees.

19) $\frac{19\pi}{4}$

855°

20) $\frac{\pi}{4}$

45°

21) $-\frac{43\pi}{18}$

-430°

22) $-\frac{31\pi}{18}$

-310°

Critical thinking questions:

23) Find five angles that have a reference angle of $\frac{\pi}{6}$.

$\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}, \frac{13\pi}{6}$

24) How many solutions are there to the equation:

$x^\circ = x$ radians

One: $0^\circ = 0$ radians