

## Radians and Degrees

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Date \_\_\_\_\_ Period \_\_\_\_\_

**State if the given angles are coterminal.**

1)  $175^\circ, 375^\circ$

2)  $35^\circ, -325^\circ$

3)  $\frac{5\pi}{18}, \frac{59\pi}{18}$

4)  $\frac{11\pi}{6}, -\frac{13\pi}{6}$

**Convert each degree measure into radians.**

5)  $260^\circ$

6)  $-30^\circ$

7)  $495^\circ$

**Convert each radian measure into degrees.**

8)  $-\frac{\pi}{6}$

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

10)  $\frac{19\pi}{12}$

Find a positive and a negative coterminal angle for each given angle.

11)  $340^\circ$

12)  $-244^\circ$

13)  $\frac{4\pi}{9}$

14)  $\frac{7\pi}{3}$

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

15)  $-220^\circ$

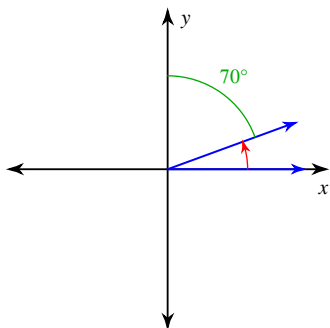
16)  $440^\circ$

17)  $\frac{2\pi}{9}$

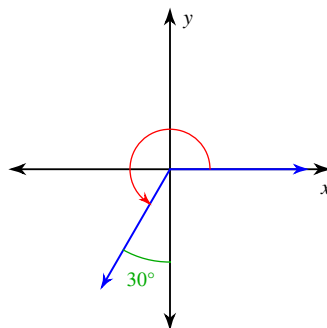
18)  $\frac{47\pi}{12}$

Find the measure of each angle.

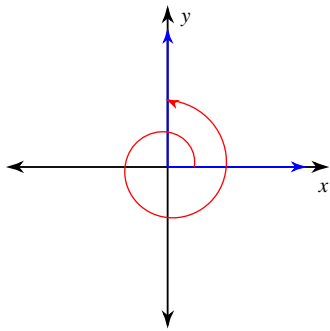
19)



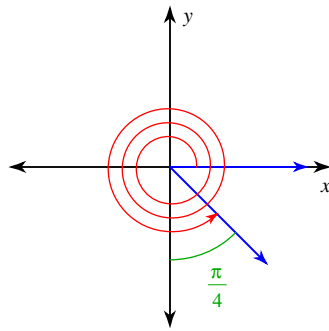
20)



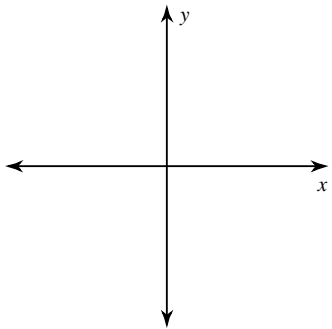
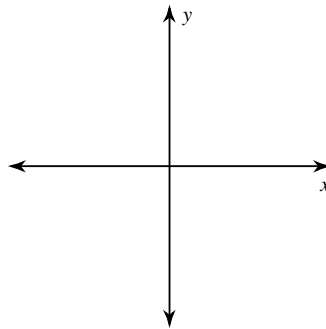
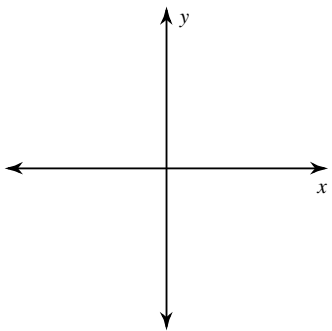
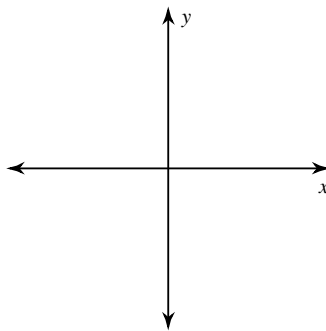
21)



22)



**Draw an angle with the given measure in standard position.**

23)  $-540^\circ$ 24)  $30^\circ$ 25)  $\frac{11\pi}{18}$ 26)  $-\frac{7\pi}{6}$ 

**Sketch each angle. Find the reference angle.**

27)  $710^\circ$

28)  $225^\circ$

29)  $-\frac{10\pi}{3}$

30)  $-\frac{13\pi}{4}$

**Find the complement and supplement of each angle.**

31)  $\pi/4$

32)  $80^\circ$

33)  $44^\circ$

34)  $\pi/6$

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**State if the given angles are coterminal.**

1)  $175^\circ, 375^\circ$

No

2)  $35^\circ, -325^\circ$

Yes

3)  $\frac{5\pi}{18}, \frac{59\pi}{18}$

No

4)  $\frac{11\pi}{6}, -\frac{13\pi}{6}$

Yes

**Convert each degree measure into radians.**

5)  $260^\circ$

$$\frac{13\pi}{9}$$

6)  $-30^\circ$

$$-\frac{\pi}{6}$$

7)  $495^\circ$

$$\frac{11\pi}{4}$$

**Convert each radian measure into degrees.**

8)  $-\frac{\pi}{6}$

$$-30^\circ$$

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

$$45^\circ$$

10)  $\frac{19\pi}{12}$

$$285^\circ$$

Find a positive and a negative coterminal angle for each given angle.

11)  $340^\circ$

$700^\circ$  and  $-20^\circ$

12)  $-244^\circ$

$116^\circ$  and  $-604^\circ$

13)  $\frac{4\pi}{9}$

$\frac{22\pi}{9}$  and  $-\frac{14\pi}{9}$

14)  $\frac{7\pi}{3}$

$\frac{\pi}{3}$  and  $-\frac{5\pi}{3}$

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

15)  $-220^\circ$

II

16)  $440^\circ$

I

17)  $\frac{2\pi}{9}$

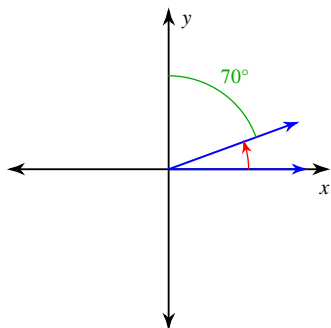
I

18)  $\frac{47\pi}{12}$

IV

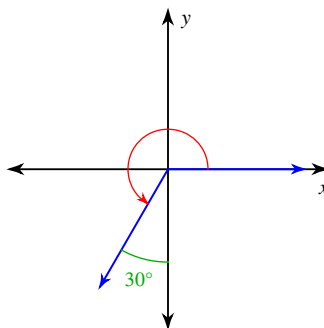
Find the measure of each angle.

19)



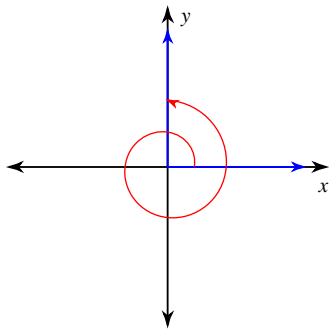
$20^\circ$

20)



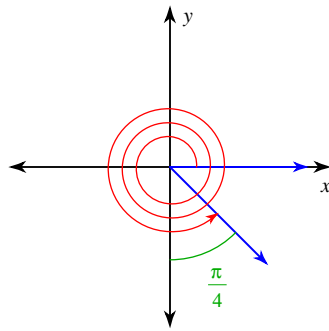
$240^\circ$

21)



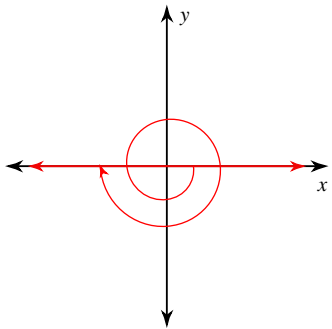
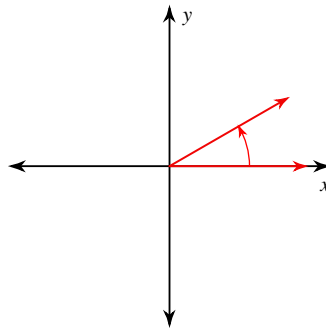
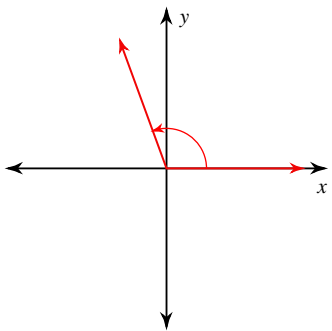
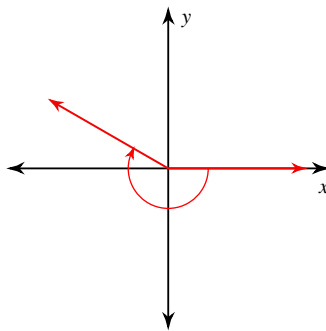
$$\frac{5\pi}{2}$$

22)



$$\frac{23\pi}{4}$$

**Draw an angle with the given measure in standard position.**

23)  $-540^\circ$ 24)  $30^\circ$ 25)  $\frac{11\pi}{18}$ 26)  $-\frac{7\pi}{6}$ 

**Sketch each angle. Find the reference angle.**

27)  $710^\circ$

$10^\circ$

28)  $225^\circ$

$45^\circ$

29)  $-\frac{10\pi}{3}$

$\frac{\pi}{3}$

30)  $-\frac{13\pi}{4}$

$\frac{\pi}{4}$

**Find the complement and supplement of each angle.**

31)  $\pi/4$

32)  $80^\circ$

The dot next to the choice indicates that it is the answer. The dot next to the choice indicates that it is the answer.

33)  $44^\circ$

34)  $\pi/6$

The dot next to the choice indicates that it is the answer. The dot next to the choice indicates that it is the answer.