Precalculus

Name_____

Angles & Their Measure

Date_____

Convert each degree measure into radians and each radian measure into degrees. Exact answers only.

1) 80° $\frac{4\pi}{9}$

2) $\frac{35\pi}{18}$ 350°

3) -105° $-\frac{7\pi}{12}$

4) 390° $\frac{13\pi}{6}$

5) $\frac{61\pi}{18}$ 610°

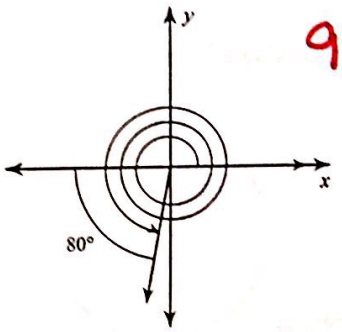
6) $\frac{25\pi}{12}$ 375°

7) -350° $-\frac{35\pi}{18}$

8) $\frac{8}{3}$ $\frac{480}{\pi}$°

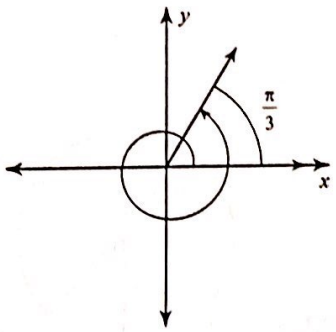
Find the measure of each angle.

9)



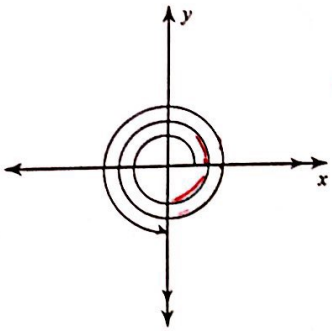
980°

10)



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

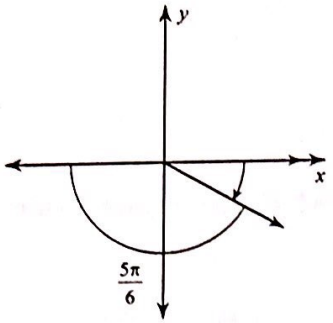
11)



$\frac{11\pi}{2}$

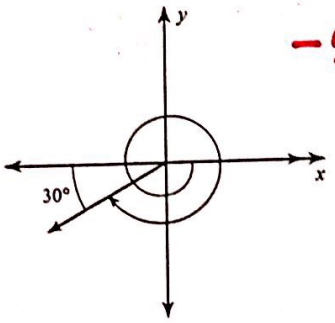
990°

12)



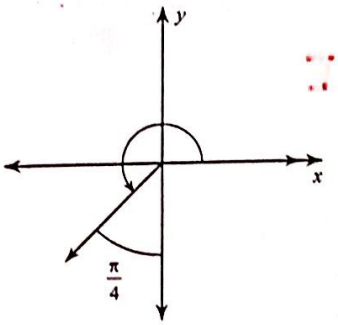
$-\frac{\pi}{6}$

13)



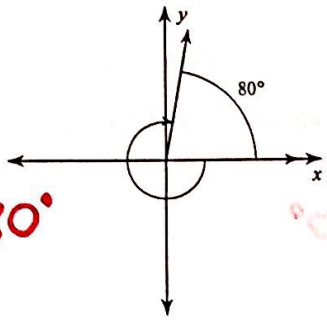
-510°

14)



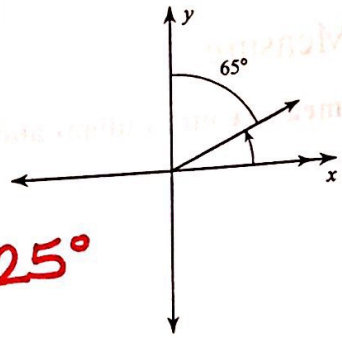
$\frac{5\pi}{4}$

15)



-280°

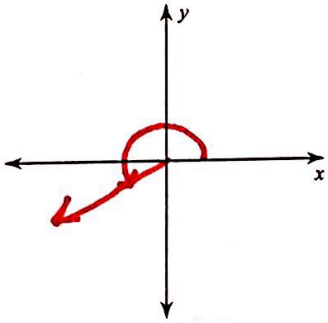
16)



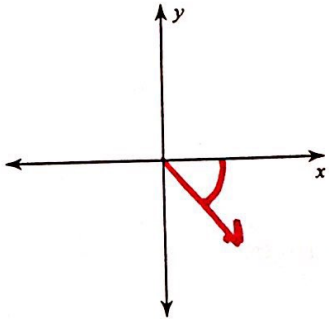
25°

Draw an angle with the given measure in standard position.

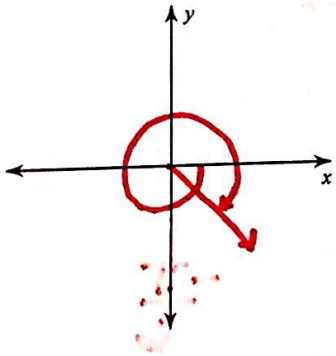
17) 205°



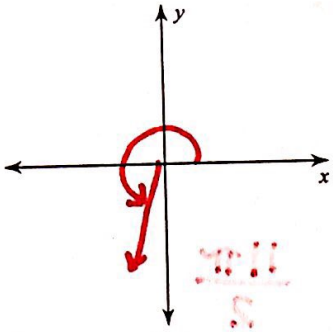
18) −55°



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



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



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

21) -509° III

22) $-\frac{5\pi}{6}$ III

23) -340° I

24) $\frac{5\pi}{3}$ IV

4.

Pre-Calculus

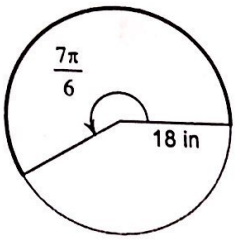
Name_____

Arc Length & Sector Areas

Date_____

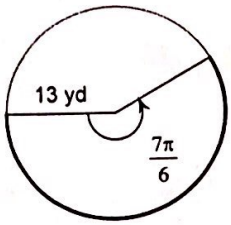
Find the length of each arc.

25)



21π in

26)



$\frac{91\pi}{6}$ yd

27) $r = 13$ yd, $\theta = 55°$

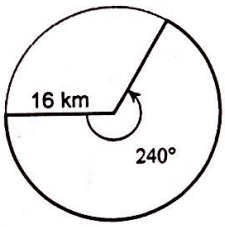
$\frac{143}{36}\pi$ yd

28) $r = 16$ in, $\theta = 105°$

$\frac{28}{3}\pi$ in^2

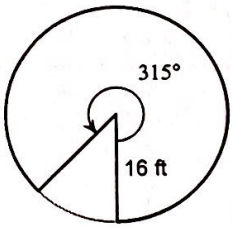
Find the area of each sector.

29)



$\frac{512\pi}{3}$ km^2

30)



224π ft^2

31) $r = 9$ yd, $\theta = \frac{8\pi}{5}$

$\frac{324\pi}{5}$ yd^2

32) $r = 9$ km, $\theta = \frac{5\pi}{7}$

$\frac{405\pi}{14}$ km^2