

Unit 1 Review

Convert each decimal degree measure into degrees-minutes-seconds.

1) 215.4675°

$215^\circ 28' 3''$

2) 259.4325°

$259^\circ 25' 57''$

3) 266.93°

$266^\circ 55' 48''$

Convert each degrees-minutes-seconds into decimal degrees.

4) $99^\circ 27' 18''$

99.455°

5) $149^\circ 35' 42''$

149.595°

6) $305^\circ 57' 9''$

305.9525°

Convert each degree measure into radians.

7) 195°

$\frac{13\pi}{12}$

8) 80°

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

9) -620°

$-\frac{31\pi}{9}$

Convert each radian measure into degrees.

10) $\frac{65\pi}{36}$

325°

11) $\frac{47\pi}{36}$

235°

12) $-\frac{7\pi}{6}$

-210°

State if the given angles are coterminal.

13) $5^\circ, 365^\circ$

Yes

14) $145^\circ, -55^\circ$

No

15) $\frac{49\pi}{36}, -\frac{121\pi}{36}$

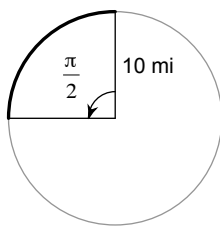
No

16) $\frac{17\pi}{36}, -\frac{55\pi}{36}$

Yes

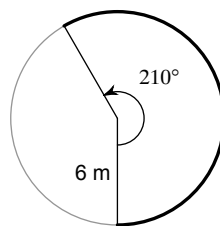
Find the length of each arc.

17)



5π mi

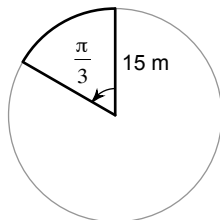
18)



7π m

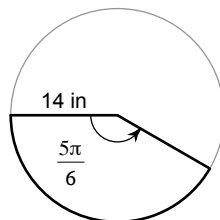
Find the area of each sector.

19)



$\frac{75\pi}{2}$ m²

20)



$\frac{245\pi}{3}$ in²

21) What is the apparent size of an object 24 in long held 130 in from your eyes?

$.185$ radians = 10.578°

Find the exact value of each trigonometric function.

22) $\sin 150^\circ$

$\frac{1}{2}$

23) $\cos 330^\circ$

$\frac{\sqrt{3}}{2}$

24) $\tan 240^\circ$

$$\sqrt{3}$$

26) $\cos 405^\circ$

$$\frac{\sqrt{2}}{2}$$

28) $\cos \frac{3\pi}{4}$

$$-\frac{\sqrt{2}}{2}$$

30) $\sin \frac{11\pi}{2}$

$$-1$$

32) $\tan -\frac{3\pi}{4}$

$$1$$

34) $\csc -240^\circ$

$$\frac{2\sqrt{3}}{3}$$

36) $\sec -330^\circ$

$$\frac{2\sqrt{3}}{3}$$

38) $\cot -270^\circ$

$$0$$

40) $\csc \frac{13\pi}{3}$

$$\frac{2\sqrt{3}}{3}$$

25) $\sin -60^\circ$

$$-\frac{\sqrt{3}}{2}$$

27) $\sin \frac{2\pi}{3}$

$$\frac{\sqrt{3}}{2}$$

29) $\tan \frac{5\pi}{3}$

$$-\sqrt{3}$$

31) $\cos \frac{23\pi}{6}$

$$\frac{\sqrt{3}}{2}$$

33) $\csc 330^\circ$

$$-2$$

35) $\sec 315^\circ$

$$\sqrt{2}$$

37) $\cot 330^\circ$

$$-\sqrt{3}$$

39) $\csc \frac{3\pi}{4}$

$$\sqrt{2}$$

41) $\sec \frac{7\pi}{6}$

$$-\frac{2\sqrt{3}}{3}$$

42) $\sec \frac{7\pi}{2}$

Undefined

43) $\cot 0$

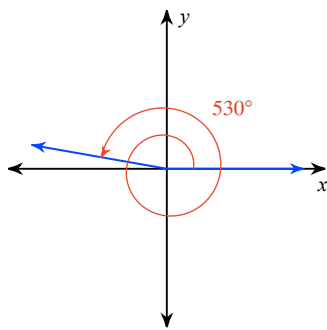
Undefined

44) $\cot \frac{8\pi}{3}$

$-\frac{\sqrt{3}}{3}$

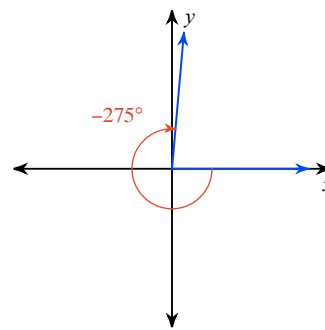
Find the reference angle.

45)



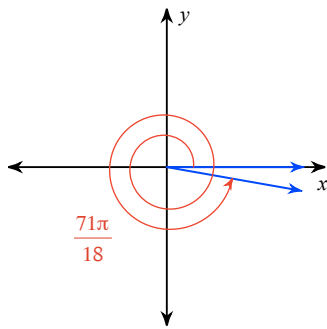
10°

46)



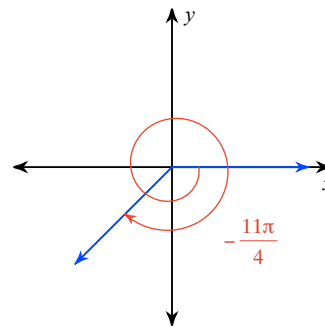
85°

47)



$\frac{\pi}{18}$

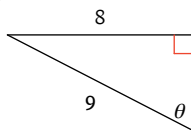
48)



$\frac{\pi}{4}$

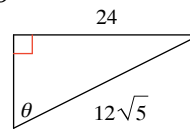
Find the value of the trig function indicated.

49) $\csc \theta$



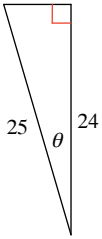
$\frac{9}{8}$

50) $\sec \theta$



$\sqrt{5}$

51) $\cot \theta$



$\frac{24}{7}$

52) Find $\tan \theta$ if $\sin \theta = \frac{4}{5}$

$\frac{4}{3}$

53) Find $\tan \theta$ if $\sec \theta = \frac{17}{8}$

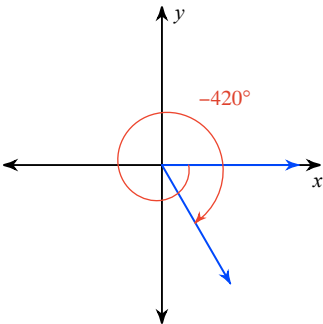
$\frac{15}{8}$

54) Find $\csc \theta$ if $\cot \theta = \frac{7}{24}$

$\frac{25}{24}$

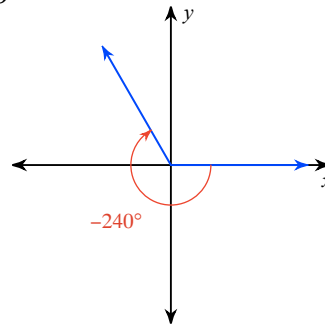
Find the exact value of each trigonometric function.

55) $\cot \theta$



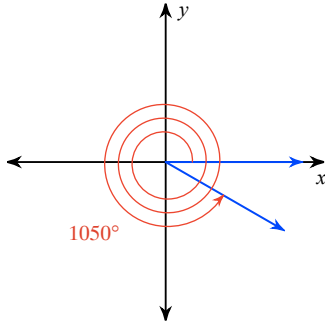
$-\frac{\sqrt{3}}{3}$

56) $\csc \theta$



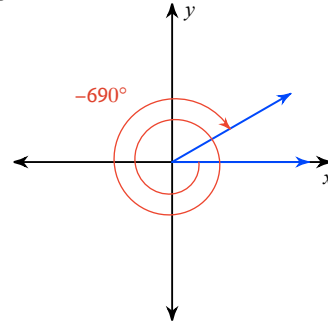
$\frac{2\sqrt{3}}{3}$

57) $\sec \theta$



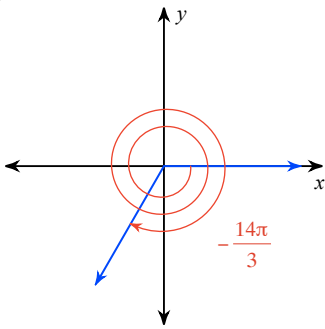
$$\frac{2\sqrt{3}}{3}$$

58) $\cot \theta$



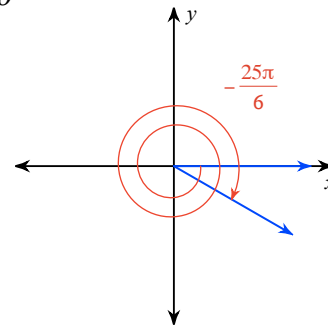
$$\sqrt{3}$$

59) $\cot \theta$



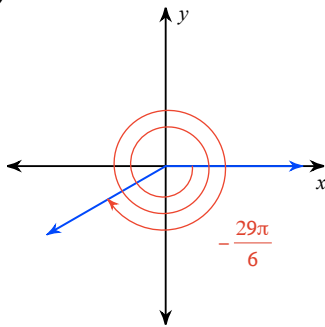
$$\frac{\sqrt{3}}{3}$$

60) $\sec \theta$



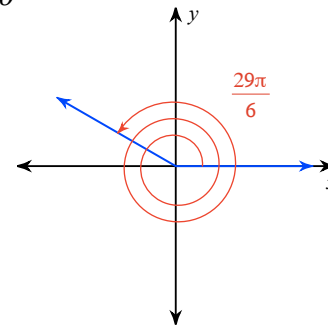
$$\frac{2\sqrt{3}}{3}$$

61) $\csc \theta$



$$-2$$

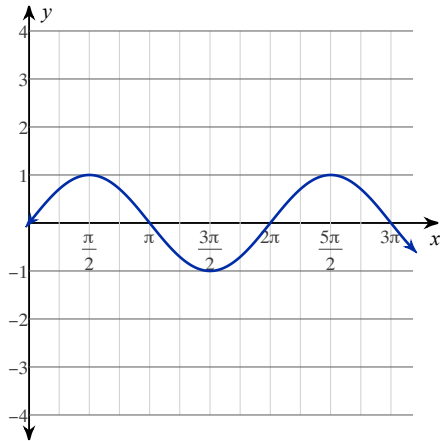
62) $\cos \theta$



$$-\frac{\sqrt{3}}{2}$$

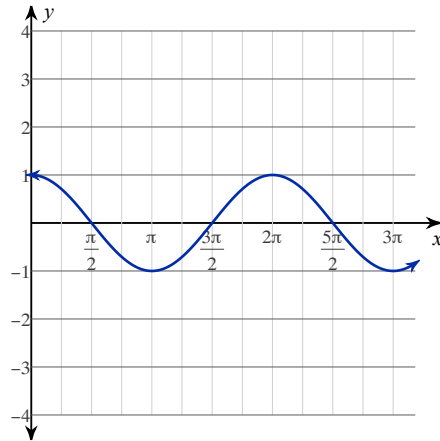
Write the function for each graph.

63) function: _____



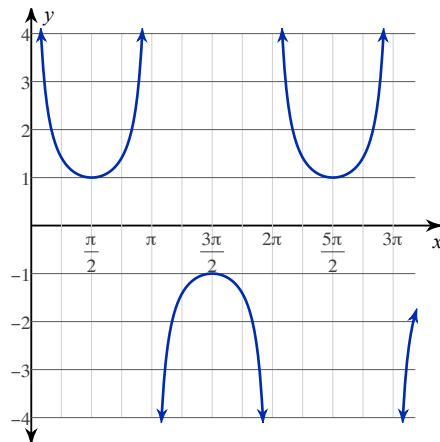
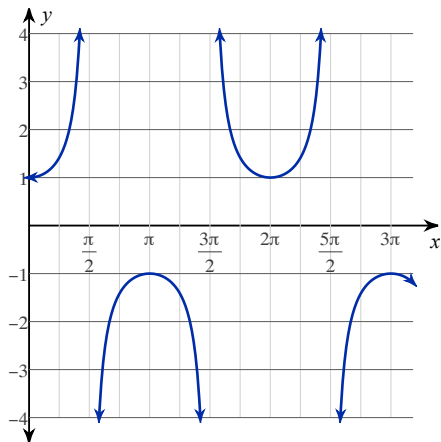
$y = \sin \theta$

64) function: _____



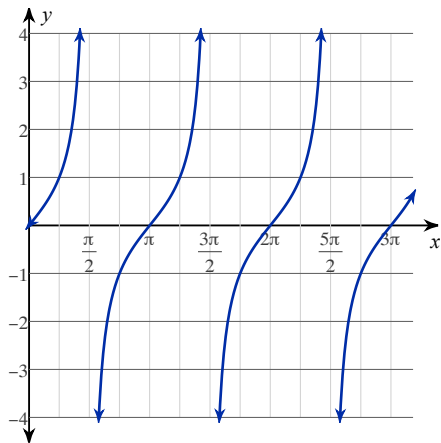
$y = \cos \theta$

65) function: _____ $y = \sec \theta$ 66) function: _____



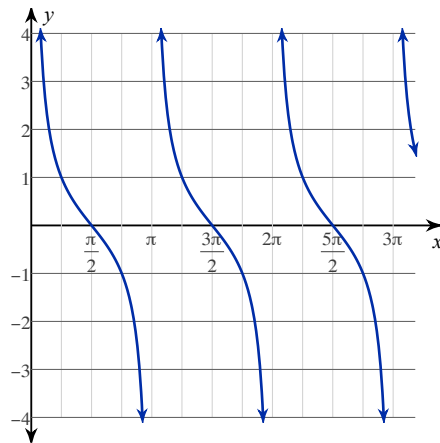
$y = \csc \theta$

67) function: _____



$y = \tan \theta$

68) function: _____



$y = \cot \theta$