

Learning the Unit Circle

Find the exact value of each trigonometric function.

1) $\tan 135^\circ$

-1

2) $\cos 120^\circ$

$-\frac{1}{2}$

3) $\sin 0^\circ$

0

4) $\tan 270^\circ$

Undefined

5) $\sin 330^\circ$

$-\frac{1}{2}$

6) $\cos 180^\circ$

-1

7) $\tan 210^\circ$

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

8) $\sin 240^\circ$

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

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

-1

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

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

11) $\tan \frac{\pi}{6}$

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

12) $\sin \frac{5\pi}{6}$

$\frac{1}{2}$

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

$-\sqrt{3}$

14) $\cos \frac{11\pi}{6}$

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

$$15) \cos \frac{\pi}{6}$$

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

$$16) \tan \frac{3\pi}{4}$$

$$-1$$

$$17) \tan -870^\circ$$

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

$$18) \cos -945^\circ$$

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

$$19) \sin -495^\circ$$

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

$$20) \tan 405^\circ$$

$$1$$

$$21) \sin -570^\circ$$

$$\frac{1}{2}$$

$$22) \tan 900^\circ$$

$$0$$

$$23) \cos -585^\circ$$

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

$$24) \sin -960^\circ$$

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

$$25) \cos -\frac{17\pi}{6}$$

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

$$26) \tan -\frac{8\pi}{3}$$

$$\sqrt{3}$$

$$27) \sin \frac{11\pi}{6}$$

$$-\frac{1}{2}$$

$$28) \cos \frac{11\pi}{4}$$

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

$$29) \tan \frac{16\pi}{3}$$

$$\sqrt{3}$$

$$30) \cos \frac{35\pi}{6}$$

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

$$31) \sin 5\pi$$

$$0$$

$$32) \cos -\frac{17\pi}{3}$$

$$\frac{1}{2}$$

$$33) \csc 60^\circ$$

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

$$34) \sec \frac{\pi}{2}$$

Undefined

$$35) \cot 0^\circ$$

Undefined

$$36) \sec \frac{7\pi}{4}$$

$$\sqrt{2}$$

$$37) \sec 270^\circ$$

Undefined

$$38) \sec 0$$

$$1$$

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

$$-1$$

$$40) \cot \frac{7\pi}{6}$$

$$\sqrt{3}$$

$$41) \csc \frac{\pi}{3}$$

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

$$42) \sec 135^\circ$$

$$-\sqrt{2}$$

43) $\sec 60^\circ$

2

44) $\cot 270^\circ$

0

45) $\csc 30^\circ$

2

46) $\cot 150^\circ$

$-\sqrt{3}$

47) $\csc \frac{\pi}{6}$

2

48) $\csc \frac{\pi}{4}$

$\sqrt{2}$

49) $\csc 135^\circ$

$\sqrt{2}$

50) $\sec 180^\circ$

-1

51) $\csc \frac{5\pi}{6}$

2

52) $\cot 30^\circ$

$\sqrt{3}$

53) $\csc 225^\circ$

$-\sqrt{2}$

54) $\sec \frac{4\pi}{3}$

-2

55) $\cot 0$

Undefined

56) $\cot \frac{3\pi}{2}$

0