

## Review for Unit Circle

Find the exact value of each trigonometric function.

1)  $\cos \frac{\pi}{3}$

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

2)  $\cos -\frac{11\pi}{6}$

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

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

$$-\sqrt{2}$$

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

$$-\sqrt{3}$$

5)  $\tan -\frac{2\pi}{3}$

$$\sqrt{3}$$

6)  $\sec \frac{5\pi}{2}$

Undefined

7)  $\csc -\frac{13\pi}{4}$

$$\sqrt{2}$$

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

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

$$9) \cot -\frac{17\pi}{4}$$

-1



$$10) \sin \frac{10\pi}{3}$$

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

$$11) \tan -\frac{19\pi}{4}$$

1

$$12) \cot \frac{29\pi}{6}$$

$-\sqrt{3}$

$$13) \csc \frac{16\pi}{3}$$

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

$$14) \tan -\frac{11\pi}{2}$$

Undefined

Solve each equation for  $0 \leq \theta < 2\pi$ .

$$15) 4 - \sec \theta = 5$$

$\{\pi\}$

$$16) 1 = 2 - 2\cos \theta$$

$\left\{\frac{\pi}{3}, \frac{5\pi}{3}\right\}$

$$17) 4 + \frac{1}{2} \cdot \cot \theta = \frac{7}{2}$$

$\left\{\frac{3\pi}{4}, \frac{7\pi}{4}\right\}$

$$18) 1 + \frac{2}{3} \cdot \csc \theta = \frac{4}{3}$$

No solution.

$$19) 5 + 2\cos \theta = 7$$

$$\{0\}$$

$$20) -3 - \tan \theta = \frac{-9 - \sqrt{3}}{3}$$

$$\left\{\frac{\pi}{6}, \frac{7\pi}{6}\right\}$$

$$21) 5 = 5 + 3\sin \theta$$

$$\{0, \pi\}$$

$$22) -4 + \frac{2}{3} \cdot \sin \theta = -\frac{11}{3}$$

$$\left\{\frac{\pi}{6}, \frac{5\pi}{6}\right\}$$

$$23) \frac{-8 + \sqrt{3}}{2} = -4 + \cos \theta$$

$$\left\{\frac{\pi}{6}, \frac{11\pi}{6}\right\}$$

$$24) -\frac{17}{5} = -3 + \frac{1}{5} \cdot \cos \theta$$

No solution.

$$25) -\frac{5}{2} = -3 + \sin \theta$$

$$\left\{\frac{\pi}{6}, \frac{5\pi}{6}\right\}$$

$$26) \frac{-20 + \sqrt{2}}{5} = -4 - \frac{1}{5} \cdot \sec \theta$$

$$\left\{\frac{3\pi}{4}, \frac{5\pi}{4}\right\}$$

$$27) -5 + \frac{1}{3} \cdot \tan \theta = \frac{-15 - \sqrt{3}}{3}$$

$$\left\{\frac{2\pi}{3}, \frac{5\pi}{3}\right\}$$

$$28) -5 + \frac{1}{4} \cdot \csc \theta = -\frac{19}{4}$$

$$\left\{\frac{\pi}{2}\right\}$$

Find the value of the trig function in

29) Find  $\cos \theta$  if  $\cot \theta = -\frac{\sqrt{2}}{4}$  and  $\csc \theta < 0$

$$\boxed{\frac{1}{3}}$$

30) Find  $\sin \theta$  if  $\tan \theta = \frac{\sqrt{7}}{3}$  and  $\sec \theta > 0$

$$\boxed{\frac{3}{4}}$$

$$\boxed{\frac{\sqrt{7}}{4}}$$

31) Find  $\cot \theta$  if  $\sin \theta = -\frac{9}{10}$  and  $\cos \theta > 0$

$$\boxed{-\frac{\sqrt{19}}{9}}$$

32) Find  $\csc \theta$  if  $\cos \theta = \frac{2}{3}$  and  $\cot \theta < 0$

$$\boxed{-\frac{3\sqrt{5}}{5}}$$

33) Find  $\cos \theta$  if  $\sin \theta = -\frac{3}{5}$  and  $\cot \theta > 0$

$$\boxed{-\frac{4}{5}}$$

34) Find  $\sec \theta$  if  $\sin \theta = \frac{3}{5}$  and  $\tan \theta < 0$

$$\boxed{\frac{5}{3}}$$

$$\boxed{-\frac{5}{4}}$$

35) Find  $\cot \theta$  if  $\cos \theta = \frac{15}{17}$  and  $\csc \theta < 0$

$$\boxed{-\frac{8}{15}}$$

$$\boxed{-\frac{15}{8}}$$

36) Find  $\csc \theta$  if  $\tan \theta = \frac{7}{3}$  and  $\sin \theta < 0$

$$\boxed{-\frac{3}{7}}$$

$$\boxed{-\frac{\sqrt{58}}{7}}$$