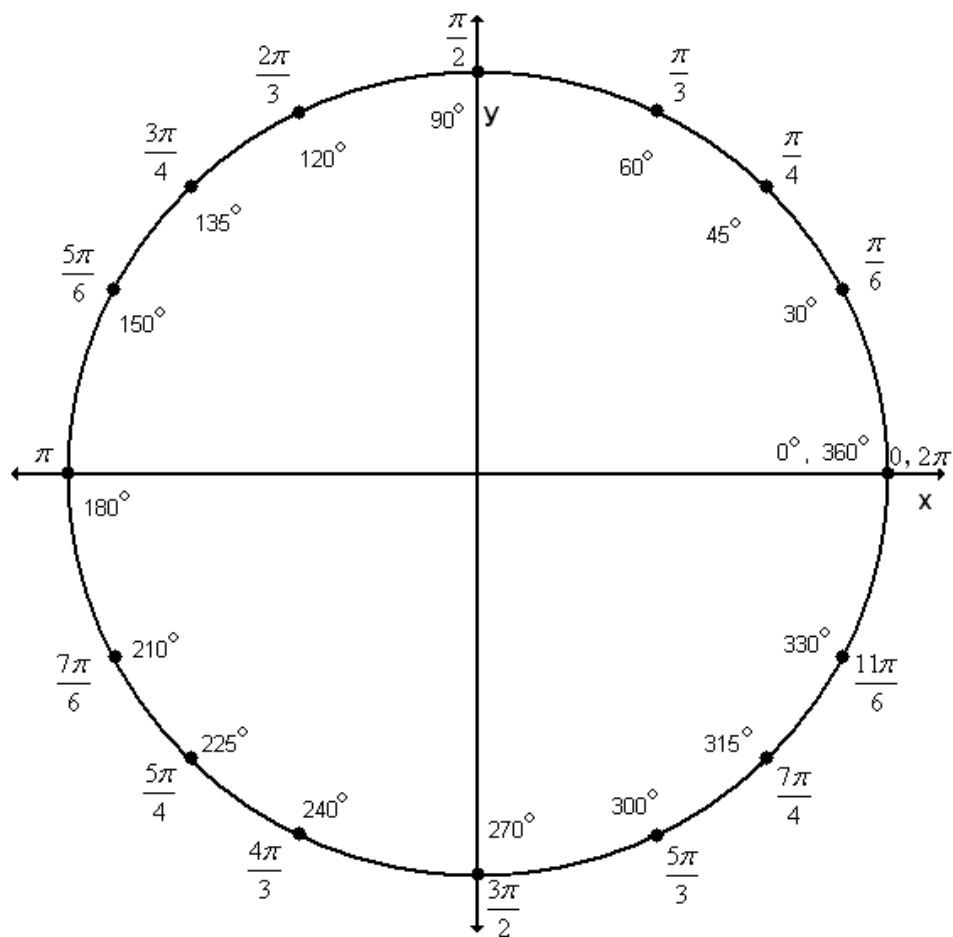


SPRING BREAK REVIEW PACKET



Use the unit circle above to find the exact value of the six trigonometric functions for each of the following angles.

A) $\frac{3\pi}{4}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

B) 300°

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

C) $-\frac{5\pi}{6}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

D) $\frac{2\pi}{3}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

E) $\frac{13\pi}{3}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

F) -240°

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

G) $-\frac{7\pi}{2}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

H) 135°

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

I) $\frac{13\pi}{6}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

J) $-\frac{2\pi}{3}$

$\sin \theta =$ $\csc \theta =$

$\cos \theta =$ $\sec \theta =$

$\tan \theta =$ $\cot \theta =$

Use the unit circle to find the exact value of each of the following. (Exact value means no decimal approximations.)

1) $\tan \frac{\pi}{4} =$

2) $\cos \frac{2\pi}{3} =$

3) $\cos \pi =$

4) $\sin \frac{11\pi}{6} =$

5) $\tan \left(-\frac{2\pi}{3} \right) =$

6) $\csc \frac{\pi}{3} =$

7) $\sec \frac{4\pi}{3} =$

8) $\cos \left(-\frac{11\pi}{6} \right) =$

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

10) $\csc \left(-\frac{5\pi}{6} \right) =$

11) $\tan \left(-\frac{\pi}{6} \right) =$

12) $\cot \frac{2\pi}{3} =$

13) $\sec \left(-\frac{19\pi}{3} \right) =$

14) $\cot \frac{\pi}{4} =$

15) $\cot \frac{11\pi}{6} =$

16) $\cos \left(-\frac{9\pi}{2} \right) =$

17) $\sin \frac{21\pi}{4} =$

18) $\cot \frac{7\pi}{4} =$

19) $\sin \left(-\frac{7\pi}{6} \right) =$

20) $\cot \frac{26\pi}{3} =$

21) $\cos \frac{\pi}{3} =$

22) Find all angles θ in the interval $[0, 2\pi)$ that satisfy the expression:

$$\sin \theta = -\frac{\sqrt{3}}{2} \quad \theta = \underline{\hspace{2cm}}$$

23) Find all angles θ in the interval $[0, 2\pi)$ that satisfy the expression:

$$\csc \theta = \sqrt{2} \quad \theta = \underline{\hspace{2cm}}$$

24) Find all angles θ in the interval $[0, 2\pi)$ that satisfy the expression:

$$\tan \theta = \sqrt{3} \quad \theta = \underline{\hspace{2cm}}$$

25) Find all angles θ in the interval $[0, 2\pi)$ that satisfy the expression:

$$\sin \theta = \pm \frac{1}{2} \quad \theta = \underline{\hspace{2cm}}$$

Find the exact value of the six trigonometric functions of an angle θ , in standard position, given the following information.

26) Given $\sin \theta = \frac{3}{5}$ the angle θ lies in quadrant II. **27)** Given $\tan \theta = \sqrt{3}$ the angle θ lies in quadrant III.

$$\sin \theta = \quad \csc \theta =$$

$$\cos \theta = \quad \sec \theta =$$

$$\tan \theta = \quad \cot \theta =$$

$$\sin \theta = \quad \csc \theta =$$

$$\cos \theta = \quad \sec \theta =$$

$$\tan \theta = \quad \cot \theta =$$

28) Given: $\cos \theta = \frac{3}{5}$, and $\frac{3\pi}{2} < \theta < 2\pi$

29) Given: $\csc \theta = \frac{3}{2}$, and $\frac{\pi}{2} < \theta < \pi$

$$\sin \theta = \quad \csc \theta =$$

$$\cos \theta = \quad \sec \theta =$$

$$\tan \theta = \quad \cot \theta =$$

$$\sin \theta = \quad \csc \theta =$$

$$\cos \theta = \quad \sec \theta =$$

$$\tan \theta = \quad \cot \theta =$$

$$30) \tan \theta = -\frac{\sqrt{5}}{2}, \sin \theta < 0$$

$$31) \text{ Given: } \cot \theta = \sqrt{2}, \cos \theta > 0$$

$$\sin \theta = \quad \quad \quad \csc \theta =$$

$$\cos \theta = \quad \quad \quad \sec \theta =$$

$$\tan \theta = \quad \quad \quad \cot \theta =$$

$$\sin \theta = \quad \quad \quad \csc \theta =$$

$$\cos \theta = \quad \quad \quad \sec \theta =$$

$$\tan \theta = \quad \quad \quad \cot \theta =$$

Solve each of the following trigonometric equations. Find all solutions in the interval $[0, 2\pi)$.

$$32) \tan^2 2x - 1 = 0$$

$$33) 2\sin^2 x + 3\sin x + 1 = 0$$

$$34) 2\cos^2 4x - 1 = 0$$

$$35) 2\sin^2 x = 2 + \cos x$$

$$36) \csc^3 x + 2\csc^2 x - 2\csc x - 4 = 0$$

$$37) 2\sin x \cos x - \cos x = 0$$

$$38) \text{ Given } \cot x = -\frac{4}{3} \text{ and } \sin x < 0, \text{ find } \sin 2x.$$

$$39) \text{ Given } \tan x = \frac{5}{8} \text{ and } \sin x < 0, \text{ find } \cos 2x$$