

1. Identify the co terminal angle on the interval $[-2\pi, 2\pi]$ for the angle $-5\pi/6$.
2. Find the value of the $\cos -3\pi/4$.
3. Find the exact value of $\tan 2\pi/3$.
4. Identify the quadrant if the $\sec\theta < 0$ and the $\cot\theta < 0$.
5. The value of $\cos 9\pi/10$ will be positive/negative?
6. Find the other 5 trig values if $\tan \theta = 12/5$ and θ is in *quad III*.
7. Find the value of $\csc \theta$ if $\cos \theta = -1/3$ and $\pi/2 < \theta < \pi$.
8. Write an equation of the sine function with amplitude $1/2$, period 2, and vertical shift down 4.
9. State the period of the function $y = \sin(\pi/4 x)$.
10. Where does the maximum value occur $[0, 2\pi)$ for the function $y = -3\cos(x + \pi/4)$
11. Where do the asymptotes occur for one period of $y = \csc(x) + 1$?
12. Graph one period of $y = \cos(x - \pi/2) - 2$. Label both axes. Label the key points, clearly.
13. Simplify $\frac{\tan \alpha}{\cot \alpha} - \frac{\cos \alpha}{\sec \alpha}$
14. Simplify: $\frac{\cot x}{\cos x} + \frac{1}{\sin x}$
15. Verify the identity. $2 \csc^2 x = \frac{1}{1 - \cos x} + \frac{1}{1 + \cos x}$
16. Solve: $2\sin\theta = -\sqrt{2}$
17. Give the solutions for $4\cos^2\theta = 4$
18. Solve $\sec x - \sqrt{2} = 0$ for $[0, 2\pi]$
19. Solve: $2\sin^2 x - \sin x - 1 = 0$
20. Give the solutions for $\sin 2\theta = -\cos\theta$
21. Use either a sum or difference identity to find the exact value of $\cos 5\pi/12$.
22. Triangle XYZ has the following properties. What is the approximate length of the side opposite vertex Z ?
 - The angle at vertex X is 24° and the angle at vertex Y is obtuse.
 - The side opposite vertex X has a length of 6 units.
 - The side opposite vertex Y has a length of 8 units.
23. A triangular parcel of land has sides of lengths 41', 29' and 59'. Find the measure of the **largest** angle.
24. Donald and Barack are standing 100 feet apart and notice a drone hovering above them in the sky. If Donald is standing west of the drone and spots it at a 41° angle of elevation and Barack is standing east of the drone and spots it at a 21° of elevation, what is the distance from each man to the drone?
25. Two airplanes leave an airport and the angle between their flight paths is 40° . An hour later, one plane has traveled 300 miles while the other has traveled 200 miles. How far apart are the planes at this time?

