

11.APK – Exact Values of Trig Functions

Find the exact value of the trigonometric expression.

1. $4 \cos\left(\frac{3\pi}{4}\right)$

2. $\sin\left(\frac{\pi}{2}\right) - \cos\left(\frac{3\pi}{2}\right)$

3. $2\sin^2\left(\frac{5\pi}{6}\right) + \sin\left(\frac{5\pi}{6}\right) + 1$

4. $\tan\frac{7\pi}{6} - 2 \sec\frac{11\pi}{6}$

5. $2 \tan\frac{\pi}{3} + \cos\frac{\pi}{4} \tan\frac{\pi}{6}$

6. $2 \cos\frac{\pi}{4} + 5 \csc\frac{5\pi}{4}$

Use the given ratio and location description to sketch a reference triangle (in the proper quadrant) and then find the exact value of the trigonometric expression.

7. Given $\tan \theta = -\frac{5}{12}$ and $\frac{\pi}{2} < \theta < \pi$, determine the exact value of the expression $\sin \theta \cot \theta$.

8. Given $\sin \theta = \frac{1}{2}$ and θ terminates in Quadrant II, determine the exact value of the expression $\csc \theta \cot \theta$.

Find the exact value of the trigonometric expression. You should be able to find these using a reference triangle in the proper quadrant.

9. $\tan\left[\sin^{-1}\left(-\frac{1}{5}\right)\right]$

10. $\csc\left[\cos^{-1}\frac{\sqrt{10}}{5}\right]$