

1. Find the value of $\tan \left[\cos^{-1} - \frac{3}{5} \right]$ 1. _____

2. If A and B are acute angles and $\tan A = \frac{1}{4}$ and $\tan B = \frac{3}{5}$, find $\tan (A + B)$. 2. _____

3. As an angle x increases from 0° to 360° , $\cos x$ and $\sin x$ both decrease in which quadrant? 3. _____

4. In $\triangle ABC$, if $a = 4$, $c = 2\sqrt{3}$, and $m \angle A = 60^\circ$, what is the value of $\sin C$? 4. _____

a) $\frac{\sqrt{3}}{2}$ b) $\frac{\sqrt{3}}{4}$ c) $\frac{3}{2}$ d) $\frac{3}{4}$

5. Solve $0 \leq x < 360$:
 $2\cot^2 x - 5\cot x - 3 = 0$ 5. _____
6. If the amplitude of $y = k \sin x$ is 2,
what is the amplitude of $y = 3k \sin 2x$? 6. _____
7. What is the value of $\sin \frac{\pi}{6} + \cos \pi$? 7. _____
8. What is the exact value of $\tan (-135)$? 8. _____
9. If A is an acute angle, express $\tan A$ in
terms of $\sin A$. 9. _____
10. In $\triangle ABC$, $a = 4$, $b = 5$ and $\cos C = -0.6$.
Find in radical form the length of side c. 10. _____

11. The terminal side of θ , an angle in standard position, intersects the unit circle at $P\left(\frac{-1}{3}, \frac{-\sqrt{8}}{3}\right)$.

What is the value of $\sec \theta$?

11. _____

12. Two forces act on an object. The first force has a magnitude of 76 pounds and makes an angle of 36° with the resultant. The magnitude of the resultant is 118 pounds. Find to the nearest pound the magnitude of the second force.

12. _____