

1. Convert the angle from degrees to radians or from radians to degrees.

(a) 600° (b) $-\frac{2\pi}{3}$

2. Find the exact values of the given expression.

(a) $\tan(\frac{4\pi}{3})$ (b) $\sec(\frac{4\pi}{3})$ (c) $\sin(\frac{4\pi}{3})$ (d) $\cot(\frac{4\pi}{3})$

3. Find the exact values of the remaining trigonometric functions if $\tan \theta = -\frac{2}{7}$ and $\csc \theta < 0$.

4. Find the exact values of the remaining trigonometric functions if $\cos \theta = \frac{3}{5}$ and θ is in quadrant *IV*.

5. If $\cos \theta = 0.4$ then find $\cos \theta + \cos(\theta + 2\pi) + \cos(\theta + \pi)$.

6. Find the exact values of the given expression.

(a) $\tan(13\pi)$ (b) $\sec(12\pi)$ (c) $\sin(\frac{-15\pi}{2})$ (d) $\cot(\frac{5\pi}{4})$

7. A radio transmission tower is 150 feet tall. How long should a guy wire be if it is to be attached 5 feet from the top and is to make an angle of 20° with the ground? Give your answer to the nearest tenth of a foot.

8. For the function $f(x) = \sqrt{x}$ find

(a) $f(-x)$ (b) $-f(x)$ (c) $f(x+h)$ (d) $\frac{f(x+h) - f(x)}{h}$

9. find the domain of the following function.

(a) $f(x) = \sqrt{1-x}$ (b) $f(x) = \frac{x}{x^2-16}$ (c) $f(x) = \frac{4}{x-9}$ (d) $f(x) = \frac{\sqrt{t-4}}{3t-21}$