

Pre-Cal CW 4.6-5.2 Graphing Trig Functions and Trig Identities

Complete each trig identity

1. $\sec\left(\frac{\pi}{2} - u\right) =$

2. $\csc(-u) =$

Use the values to evaluate $\csc \theta$:

3. $\tan \theta = -\frac{2}{3}, \quad \sec \theta = \frac{\sqrt{13}}{3}$

4. Find the exact value of the expression.

$\csc\left[\arctan\left(\frac{-12}{5}\right)\right]$

Use the fundamental identities to simplify each expression.

5. $\cot\left(\frac{\pi}{2} - x\right)\cos x =$

6. $\tan x - \frac{\sec^2 x}{\tan x} =$

Verify each identity.

7. $\sec^2 \theta \cot \theta - \cot \theta = \tan \theta$

8. $\frac{\sin^4 x - \cos^4 x}{\sin^2 x} = 1 - \cot^2 x$

Find the exact value of each expression, if possible.

9. $\arcsin\left(\frac{\sqrt{2}}{2}\right) =$

10. $\arccos\left(\frac{3}{2}\right) =$

11. $\tan^{-1}(-\sqrt{3}) =$

Graph each Trig Function:

12. $y = 2 \tan \frac{\pi x}{4} - 1$

13. $y = \cot\left(2x + \frac{\pi}{3}\right)$