

Unit 6: Trig Identities

Lesson #1: Establish Trig Identities MA3A5

1. $\csc(-x) \sin x$

2. $\cot x \sin x$

3. $1 + \tan^2(-x)$

4. $\frac{\sin(-x)}{\cos(-x)}$

5. $\frac{\tan x}{\sec x}$

6. $\sec x \frac{\sin x}{\tan x}$

7. $\frac{\sin^2 x + \cos^2 x}{\cos^2 x}$

8. $\frac{1 + \cot^2 x}{\cot^2 x}$

9. $\sec^2 \theta (1 - \sin^2 \theta)$

10. $\tan^2 \theta - \sec^2 \theta$

11. $\sec x \sin\left(\frac{\pi}{2} - x\right)$

12. $\frac{\sin^2 \theta + \tan^2 \theta + \cos^2 \theta}{\sec \theta}$

13. $\sin(-x) \csc(-x)$

14. $\cot(-x) \tan(-x)$

15. $\frac{\tan x \sec x}{\csc^2 x}$

16. $\frac{\sec^2 \theta - \tan^2 \theta}{\cos^2 \theta + \sin^2 \theta}$

17. $(\sec^2 x + \csc^2 x) - (\tan^2 x + \cot^2 x)$

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

19. $\frac{\cos^2\left[\frac{\pi}{2} - x\right]}{\cos x}$

20. $\sin\left(\frac{\pi}{2} - x\right) \csc x$

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

22. $\csc^2\left(\frac{\pi}{2} - x\right) - 1$