Lesson 5.3 Practice: Simplifying and Proving Identities

School Launch · Trigonometry · Unit 5: Trigonometric Identities · Worksheet A

Scientific calculator

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Simplify to a single trigonometric function or a constant: $\sin^2 x \sec^2 x$. EASY

2. Simplify to a single trigonometric function or a constant: $\frac{\sec x}{\csc x}$. EASY

3. Simplify to a single trigonometric function or a constant: $\sec x - \sin x \tan x$. EASY

4. Simplify to a single trigonometric function or a constant: $\sec^2 x - \tan^2 x$. MEDIUM

5. Simplify to a single trigonometric function or a constant: $(1 + \tan^2 x)\cos^2 x$. MEDIUM

6. Simplify to a single trigonometric function or a constant: $\sin x \cot x$. MEDIUM

7. Simplify to a single trigonometric function or a constant: $\cot x \sec x \sin x$. MEDIUM

8. Simplify to a single trigonometric function or a constant: $\frac{\sin x}{1+\cos x} + \frac{1+\cos x}{\sin x}$. HARD

9. Simplify to a single trigonometric function or a constant: $\tan x \cos x$. HARD

10. Simplify to a single trigonometric function or a constant: $\csc^2 x - \cot^2 x$. HARD