

Simplify each of the following.

1.  $\tan^2 x - \sec^2 x$

2.  $\sec^2 x(1 - \cos^2 x)$

3.  $\cos x + \tan x \sin x$

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

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

6.  $\cos x \csc x$

7.  $\sec^4 x - \tan^4 x$

8.  $\frac{\sec^2 x - 1}{\sin^2 x}$

9.  $\cot x \sin x$

10.  $\sin \beta (\csc \beta - \sin \beta)$

11.  $\frac{\cot x}{\csc x}$

12.  $\sec \beta \cdot \frac{\sin \beta}{\tan \beta}$

13.  $\cot^2 x - \cot^2 x \cos^2 x$

14.  $\sin^2 x \sec^2 x - \sin^2 x$

15.  $\tan^4 x + 2 \tan^2 x + 1$

16.  $\sin^4 x - \cos^4 x$

17.  $\sin^4 x + 2 \sin^2 x \cos^2 x + \cos^4 x$

18.  $\tan^2 x - \tan^2 x \sin^2 x$

19.  $(\sin x + \cos x)^2$

20.  $(\cot x + \csc x)(\cot x - \csc x)$