

**Simplifying Trig Expressions WS 1**

NAME \_\_\_\_\_

Simplify each of the following.

1.  $(\tan \theta)(\cos \theta)$

2.  $(\cot A)(\sec A)(\sin A)$

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

4.  $(\cos x)(\csc x)(\tan x)$

5.  $(\cos y)(\sec y)$

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

7.  $\sin^2 x - 1$

8.  $\cos^3 y + \cos y \sin^2 y$

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

10.  $\frac{\sin^4 \theta - \cos^4 \theta}{\sin^2 \theta - \cos^2 \theta}$

11.  $\frac{1 + \tan^2 \theta}{1 + \cot^2 \theta}$

12.  $(1 + \sin x)(1 - \sin x)$

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

14.  $\sin \theta(\csc \theta - \sin \theta)$

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

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

17.  $\frac{\sec^2 x - 1}{\sec x + 1} + 1$

18.  $\cot^2 x(\sec^2 x - 1)$

19.  $(1 - \cos^2 x)\csc x$

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

21.  $\frac{1}{\tan^2 x + 1}$

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

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

24.  $\frac{\tan \theta \csc \theta}{\sec \theta}$

25.  $\frac{\sin^2 \theta - \cot \theta \tan \theta}{\cot \theta \sin \theta}$

26.  $\sec x - \tan x \sin x$

### Simplifying Trig Expressions WS 1 - Answers

1.  $\sin \theta$

2. 1

3.  $\sin x$

4. 1

5. 1

6. 1

7.  $-\cos^2 x$

8.  $\cos y$

9. -1

10. 1

11.  $\tan^2 \theta$

12.  $\cos^2 x$

13.  $\tan^2 x$

14.  $\cos^2 \theta$

15.  $\sec x$

16.  $\tan x$

17.  $\sec x$

18. 1

19.  $\sin x$

20.  $\sin^2 x$

21.  $\cos^2 x$

22.  $\sec^4 x$

23.  $-\cot x$

24. 1

25.  $-\cos \theta$

26.  $\cos x$