

Simplifying Trig Expressions

Name: _____

Date: _____

1) $\sec \theta \cos \theta$

2) $\cot \theta \sin \theta$

3) $1 + \tan^2 \theta$

4) $\sin^2 \theta + \cos^2 \theta$

5) $\frac{\tan \theta}{\sec \theta}$

6) $\tan^2 \theta \csc^2 \theta$

7) $\sin \theta \tan \theta \cot \theta \csc \theta$

8) $\frac{\sin^2 \theta + \cos^2 \theta}{\cos^2 \theta}$

9) $\sec \theta - \sin \theta \tan \theta$

10) $\frac{\sec^2 \theta - 1}{\sec^2 \theta}$

11) $\frac{\csc \theta}{\sin \theta} - \frac{\cot \theta}{\tan \theta}$

12) $\sec^2 \theta - \tan^2 \theta + \cot^2 \theta$

13) $\cos \theta \sec \theta - \frac{\cos \theta}{\sec \theta}$

14) $\frac{\sec^2 \theta}{\sec^2 \theta - 1}$

15) $\sin^4 \theta - \cos^4 \theta$

16) $\tan \theta \cot \theta - \cos^2 \theta$

17) $\frac{\sin \theta + \tan \theta}{1 + \sec \theta}$

18) $\frac{\tan \theta + \cot \theta}{\csc^2 \theta}$

Hint: first do $\tan \theta + \cot \theta$

19) $(1 + \cos \theta)(\csc \theta - \cot \theta)$
Hint: FOIL then put in terms of $\sin \theta$ and $\cos \theta$

20) $(4\cos \theta - 3\sin \theta)^2 + (3\cos \theta + 4\sin \theta)^2$
Hint: FOIL each binomial