

5.1 HW WS

Name _____

Simplifying Trigonometric Expressions

Reduce all expressions to a single term.

1. $\cos x + \sin x \cdot \tan x$

2. $\sin^3 x + \cos^2 x \cdot \sin x$

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

4. $\frac{\cos x}{1 - \sin x} \cdot \frac{\cos x}{1 + \sin x}$

5. $\frac{1}{\cos^2 x} - \frac{1}{\cot^2 x}$

6. $\sec x \cdot \csc x - \tan x$

7. $1 + (\sec x - \tan x)(\sec x + \tan x)$

8. $\cos x(\tan x + \cos x \cdot \csc x)$

9. $\frac{\sin x + \cos x \cdot \cot x}{\cot x}$

10. $\frac{(1 + \cos x)^2 + \sin^2 x}{1 + \cos x}$

11. $(\csc x + \cot x)(1 - \cos x)$

12. $\sin x \cdot \tan x + \cos x$

13. $\csc x - \cot x \cdot \cos x$

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

15. $(\sec x - \tan x)(1 + \csc x)$

16. $(\sec x + \tan x)(1 - \sin x)$

17. $\frac{\sin x \cdot \cot x + \cos x}{2 \cot x}$

18. $\sec x(\sec x - \cos x)$

19. $\csc^2 \theta - \cos^2 \theta \csc^2 \theta$

20. $\frac{(\cos \theta + \sin \theta)^2 - 1}{\cos \theta}$

21. $\frac{\sin x + \tan x}{\tan x(\csc x + \cot x)}$

You must complete 1-10 on a separate paper, showing all steps neatly, working down the page. 11-21 are extra problems that can be done in preparation of the quiz/test.