Advanced Math Pre-Calculus Name _____
Remediation: Trigonometric Identities Date _____Period_____

Simplify each identity. SHOW ALL WORK!!! Include a justification explaining the mathematical operation or trigonometric identity used to get from one step to the next.

1. $\frac{1}{\sin x}$
2. $\frac{1}{\cos x}$
3. $\frac{1}{\csc x}$
4. $\tan x \cos x$
5. $\sin x \csc x$
6. $\sec x \cot x$
7. $\sin^2 x + \cos^2 x$
8. $1 - \sin^2 x$
9. $1 - \cos^2 x$
10. $1 + \tan^2 x$
11. $\sec^2 x - \tan^2 x$
12. $1 + \cot^2 x$
13. $\csc^2 x - 1$
14. $\frac{\sin^2 x + \cos^2 x}{\sin x}$
15. $\frac{1 - \cos^2 x}{\sin x}$
16. $\frac{1 + \tan^2 x}{\sec x}$
17. $\frac{\sin x}{\csc x}$
18. $\frac{\tan x}{\sec x}$
19. $\frac{1}{\sin x} + \frac{1}{\cos x}$
20. $\tan x + \cot x$
21. $\frac{\tan x}{\sin x} - \frac{\sin x}{\cot x}$
22. $1 - \sin^2 x \cot^2 x$
23. $\sin^2 x \cot x \sec x$
24. $(1 + \cos x)(\csc x - \cot x)$