Name:_____Class:_____Date:_____

PreAP PreCalculus Using the Fundamental Trig Identities to Simplify Expressions

A. Rewrite the given expression in simplest form.

1. $tanxcosx$

2. $cotxtanx$

3. $secysin\left(\frac{\pi}{2}-y\right)$

4. $cotusinu$

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

6. $\frac{1-\cos^2 \theta}{sin\theta}$

7. $cosx-\cos^3 x$

8. $\frac{\sin^2 u+\tan^2 u+\cos^2 u}{secu}$

B. Simplify the expression to either 1 or -1

9. $sinxcscx$

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

11. $\cot(-x)\cot\left(\frac{\pi}{2}-x\right)$

12. $\cot(-x)\tan(-x)$

13. $\sin^2(-x)+\cos^2(-x)$

14. $\sec^2(-x)-\tan^2 x$

C. Simplify the expression to either a constant or a basic trig function.

15. $\frac{\tan\left(\frac{\pi}{2}-x\right)cscx}{\csc^2 x}$

16. $\frac{1+tanx}{1+cotx}$

17. $(\sec^2 x+\csc^2 x)-(\tan^2 x+\cot^2 x)$

18. $\frac{\sec^2 u-\tan^2 u}{\cos^2 v+\sin^2 v}$