Pre-Calculus Name: _____
REVIEW Section 5.1 – 5.2

For 1- 3, find each value.

1. If csc $A = 2$, find the value of sin A.

2. If cos $\theta = \frac{1}{4}$ and $0^\circ < \theta < 90^\circ$, find tan θ.

3. If cot $x = -\frac{3}{2}$ and sec $x < 0$, find sin x and cos x.

For 4 - 8, simplify each expression.

4. sin x sec x

5. cot x sec x sin x

6. cos x + sin x tan x

7. $\frac{\cot A}{\tan A}$

8. $\sin^2 \theta \cos^2 \theta - \cos^2 \theta$

9. $\frac{\sin x \csc x}{\tan x}$

10. tan x cot $x - \cos^2 x$

11. $\frac{sinx}{cosx} + \frac{cosx}{1+sinx}$

For 12 - 16, verify each identity.

12. $\frac{\sin\theta}{1+\cos\theta}+\frac{1+\cos\theta}{\sin\theta}=2\csc\theta$

13. $\frac{\csc\theta\tan\theta}{1+\tan^2\theta}=\cos\theta.$

14. $\frac{1}{\sec x-\tan x}=\sec x+\tan x$

15. $2\tan x\sec x=\frac{1}{1-\sin x}-\frac{1}{1+\sin x}$

16. $\frac{\cos x}{1-\sin x}=\sec x+\tan x$