Verifying Identities Worksheet: 5.1 – 5.2 **Name:** _____

Practice I

1. $cos^2\theta(1 + tan^2\theta) = 1$

2. $\sec\theta - \cos\theta - \sin\theta\tan\theta = 0$

3. $1 + \tan^2 x\cos^2 x + \cos^2 x = 2$

4. $\dfrac{\cos\theta + \cot\theta\sin\theta}{\cot\theta} = 2\sin\theta$

5. $\sin\theta\csc\theta - \cos^2\theta = \sin^2\theta$

6. $\tan(-x)\cos x = -\sin x$

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

8. $\sin^2 x(1 + \cot^2 x) = 1$

9. $(\sec x + 1)(\sec x - 1) = \tan^2 x$

10. $\dfrac{\tan^2 \alpha}{\sec \alpha} = \sec \alpha - \cos \alpha$

11. $\dfrac{\sin(\alpha + \beta)}{\sin(\alpha - \beta)} = \dfrac{\tan \alpha + \tan \beta}{\tan \alpha - \tan \beta}$

12. $\sin(\alpha + \beta)\sin(\alpha - \beta) = \cos^2 \beta - \cos^2 \alpha$