

Accel Math III Practice Worksheet #2: Simplify Trig Identities

Name _____

Unit 6: Trig Identities

Lesson #1: Establish Trig Identities MA3A5

Simplify using the fundamental identities.

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|-----|---|--|-----------------------------------|-----|---------------------------------------|-----|---|
| 1. | $\tan \alpha \cos \alpha$ | 2. | $\frac{\tan \theta}{\sin \theta}$ | 3. | $1 + \cot^2 \theta$ | 4. | $\frac{\tan \theta \cos \theta}{\sin \theta}$ |
| 5. | $\sec^2 \theta - 1$ | 6. | $(\sin \theta + \cos \theta)^2$ | 7. | $\frac{\tan^2 \theta}{\sin^2 \theta}$ | 8. | $\frac{\tan^2 \theta}{1 - \sec^2 \theta}$ |
| 9. | $\frac{\cot \theta}{\cos \theta}$ | 10. | $\sin \theta \csc \theta$ | 11. | $\tan \alpha \cot \alpha$ | 12. | $\frac{\tan^2 \alpha}{\sec^2 \alpha}$ |
| 13. | $\frac{\sin^2 \theta}{1 - \cos \theta}$ | $\left[\text{Hint: Multiply by } \frac{1 + \cos \theta}{1 + \cos \theta} \right]$ | | 14. | $\cos \theta \csc \theta \tan \theta$ | 15. | $\frac{1 - \cos^2 \alpha}{\sin \alpha \cos \alpha}$ |