

# 10-1 Skills Practice

## Trigonometric Identities

Find the exact value of each expression if  $0^\circ < \theta < 90^\circ$ .

1. If  $\tan \theta = 1$ , find  $\sec \theta$ .

2. If  $\tan \theta = \frac{1}{2}$ , find  $\cos \theta$ .

3. If  $\sec \theta = 2$ , find  $\cos \theta$ .

4. If  $\cos \theta = \frac{8}{17}$ , find  $\csc \theta$ .

Find the exact value of each expression if  $90^\circ < \theta < 180^\circ$ .

5. If  $\cos \theta = -\frac{4}{5}$ , find  $\sin \theta$ .

6. If  $\cot \theta = -\frac{3}{2}$ , find  $\cos \theta$ .

Find the exact value of each expression if  $180^\circ < \theta < 270^\circ$ .

7. If  $\tan \theta = 1$ , find  $\cos \theta$ .

8. If  $\sin \theta = -\frac{\sqrt{2}}{2}$ , find  $\tan \theta$ .

9. If  $\csc \theta = -2$ , find  $\cos \theta$ .

10. If  $\cos \theta = -\frac{2\sqrt{5}}{5}$ , find  $\tan \theta$ .

11. If  $\csc \theta = -2$ , find  $\cot \theta$ .

12. If  $\sin \theta = -\frac{5}{13}$ , find  $\tan \theta$ .

Simplify each expression.

13.  $\sin \theta \sec \theta$

14.  $\csc \theta \sin \theta$

15.  $\cot \theta \sec \theta$

16.  $\frac{\cos \theta}{\sec \theta}$

17.  $\tan \theta + \cot \theta$

18.  $\csc \theta \tan \theta - \tan \theta \sin \theta$

19.  $\frac{1 - \sin^2 \theta}{\sin \theta + 1}$

20.  $\csc \theta + \cot \theta$

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

22.  $1 + \frac{\tan^2 \theta}{1 + \sec \theta}$