

# WORKSHEET - THE BASIC 8 TRIG IDENTITIES

Simplify each expression to a single trig function or number.

1.  $\sec \theta \sin \theta$

2.  $\cos \theta \tan \theta$

3.  $\tan^2 \theta - \sec^2 \theta$

4.  $1 - \cos^2 \theta$

5.  $(1 - \cos \theta)(1 + \cos \theta)$

6.  $(\sec x - 1)(\sec x + 1)$

7.  $\frac{1}{\sin^2 A} - \frac{1}{\tan^2 A}$

8.  $1 - \frac{\sin^2 \theta}{\tan^2 \theta}$

9.  $\frac{1}{\cos^2 \theta} - \frac{1}{\cot^2 \theta}$

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

11.  $\cos^2 A (\sec^2 A - 1)$

12.  $(1 - \cos x)(1 + \sec x)(\cos x)$

13.  $\frac{\sin x \cos x}{1 - \cos^2 x}$

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

Reciprocal	Ratio	Pythagorean
_____	_____	_____
_____	_____	_____
_____	_____	_____

### REVIEW.

16. Find the following for an angle in standard position with measure  $675^\circ$ .

- The quadrant in which the angle is located. \_\_\_\_\_
- The coterminal angle that is between  $0^\circ$  and  $360^\circ$ . \_\_\_\_\_
- The reference angle. \_\_\_\_\_

17. Find the following for an angle in standard position with measure  $-\frac{10\pi}{7}$

- The quadrant in which the angle is located. \_\_\_\_\_
- The coterminal angle that is between 0 and  $2\pi$ . \_\_\_\_\_
- The reference angle. \_\_\_\_\_

18. If  $\cot \theta = 7$  and  $\pi < \theta < 2\pi$ , sketch the angle  $\theta$  and find the value of the other five trig functions.

$$\sin \theta = \underline{\hspace{2cm}} \qquad \csc \theta = \underline{\hspace{2cm}}$$

$$\cos \theta = \underline{\hspace{2cm}} \qquad \sec \theta = \underline{\hspace{2cm}}$$

$$\tan \theta = \underline{\hspace{2cm}}$$