

## Assignment 6.3

For problems 1 - 3, determine the exact values of all six trigonometric functions of the given angle.

1.  $\frac{3\pi}{4}$

$$\sin \frac{3\pi}{4} =$$

$$\cos \frac{3\pi}{4} =$$

$$\tan \frac{3\pi}{4} =$$

$$\csc \frac{3\pi}{4} =$$

$$\sec \frac{3\pi}{4} =$$

$$\cot \frac{3\pi}{4} =$$

2.  $\frac{7\pi}{6}$

$$\sin \frac{7\pi}{6} =$$

$$\cos \frac{7\pi}{6} =$$

$$\tan \frac{7\pi}{6} =$$

$$\csc \frac{7\pi}{6} =$$

$$\sec \frac{7\pi}{6} =$$

$$\cot \frac{7\pi}{6} =$$

3.  $\frac{-3\pi}{2}$

$$\sin \frac{-3\pi}{2} =$$

$$\cos \frac{-3\pi}{2} =$$

$$\tan \frac{-3\pi}{2} =$$

$$\csc \frac{-3\pi}{2} =$$

$$\sec \frac{-3\pi}{2} =$$

$$\cot \frac{-3\pi}{2} =$$

For problems 4 - 15, evaluate the given expression, leaving the answer in simple radical form.

4.  $\sin \frac{\pi}{3} =$

5.  $\cos \frac{7\pi}{4} =$

6.  $\tan \pi =$

7.  $\cot \frac{5\pi}{6} =$

8.  $\sec \pi =$

9.  $\csc \frac{4\pi}{3} =$

10.  $\sin \frac{\pi}{2} + 6\cos \frac{\pi}{3} =$

11.  $\csc \frac{\pi}{2} \sin \frac{\pi}{2} =$

12.  $4\sin \frac{\pi}{3} \cos \frac{\pi}{3} =$

13.  $\sin \frac{2\pi}{3} \cos \frac{5\pi}{6} - \cos \frac{2\pi}{3} \sin \frac{5\pi}{6} =$

\*\*\*  $\sin^2 \theta$  means  $(\sin \theta)^2$

14.  $\cos^2 \pi + \sin^2 \pi =$

15.  $\sin^2 \frac{\pi}{3} \cos^2 \frac{3\pi}{4} =$

Convert the angles from degrees to radians. Write exact answers.

16.  $100^\circ$

17.  $-36^\circ$

18.  $72^\circ$

Convert the angles from radians to degrees. Write exact answers.

19.  $\frac{3\pi}{5}$

20.  $\frac{-7\pi}{9}$

21.  $\frac{11\pi}{10}$