

## Chapter 3 Practice Problems

Directions: Place all work and answers on another piece of paper.  
Be sure to write neatly and circle your answers.

1. Name the reference angle:  $135^\circ$
2. Name the reference angle:  $280^\circ 40'$

Use a calculator to find each of the following:

3.  $\csc 345^\circ 20'$
4.  $\sec 56.3^\circ$
5.  $\cot (-315.5^\circ)$

Use a calculator to find  $\theta$  to the nearest tenth of a degree if  $\theta$  is between  $0^\circ$  and  $360^\circ$  and:

6.  $\sin \theta = -0.3456$  with  $\theta$  in QIII.
7.  $\sec \theta = 3.2442$  with  $\theta$  in QIV.

Give the exact value of each of the following:

8.  $\tan 135^\circ$
9.  $\cos 210^\circ$
10.  $\csc 315^\circ$
11.  $\sec 300^\circ$
12. Convert  $105^\circ$  to radian measure.
13. Convert  $\frac{11\pi}{12}$  to degree measure.
14.  $\sin \left(-\frac{\pi}{6}\right)$
15.  $\sin \frac{2\pi}{3}$
16.  $\cos \left(-\frac{3\pi}{4}\right)$
17.  $\cot \frac{\pi}{3}$
18. Find the length of the arc  $S$  cut off by a central angle of  $\frac{\pi}{6}$  radians in a circle where  $r = 8\text{cm}$ .
19. Find the area of the sector of a circle formed by a central angle of  $120^\circ$  in a circle of radius 9 inches.

### Solution for Chapter 3

1.  $45^\circ$
2.  $79^\circ 20'$
3.  $-3.9495$
4.  $1.802$
5.  $1.018$
6.  $200.2^\circ$
7.  $288.0^\circ$
8.  $-1$
9.  $-\sqrt{3}/2$
10.  $-\sqrt{2}$
11.  $2$
12.  $7\pi/12$
13.  $165^\circ$
14.  $-1/2$
15.  $\sqrt{3}/2$
16.  $-\sqrt{2}/2$
17.  $\sqrt{3}/3$
18.  $4\pi/3 \text{ cm}$
19.  $27\pi \text{ in.}^2$