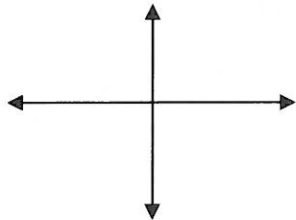Name: _____   Date: _____

Period: _____   6.3 Practice Problems

Please write neatly in the space provided, showing all work. If the problem calls for an exact value, you may **not** use your calculator to evaluate the trig function.

1. For the angle, $585°$
    a.   Draw the angle in standard position.
    b.   Convert to radian measure using exact values.
    c.   Name the reference angle in both degrees and radians.

2. For the angle $\dfrac{10\pi}{3}$,
    a.   Convert to degree measure.
    b.   Draw the angle in standard position.
    c.   Name the reference angle in both degrees and radians.
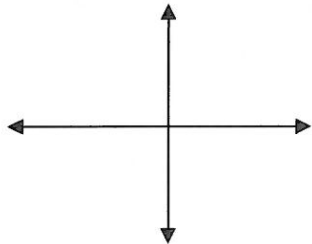
3. Draw θ in standard position and name the reference angle.
    a. $311.7°$ b. $-120°\,15'$
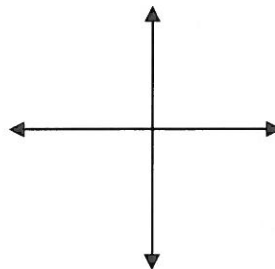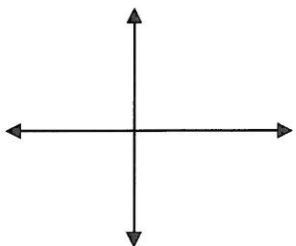
4. Find the exact value for the following:
    a. $\sec -120°$ b. $\csc 570°$ c. $\tan -45°$

    d. $\cos \dfrac{7\pi}{2}$ e. $\csc \dfrac{5\pi}{6}$

    e. $\cot \dfrac{15\pi}{4}$

5. If $\cot\theta = -1.6977$ and θ lies in Q II, find θ to the nearest tenth of a degree is $0° < \theta < 360°$.

6. Complete the inequality:

$\cos 35°$ _____ $\cos 350°$ $\qquad\qquad\qquad$ $\cos 75°$ _____ $\sin 75°$

7. If the minute hand of the clock is 10 inches long. What is the distance that the tip of the minute hand moves from 6:15 to 6:40?

8. A windshield wiper is 18 inches long, and rotates 75°. If the blade covers the entire wiper what is the area that the blade can clear off?

9. Is the point $\left(\dfrac{8}{\sqrt{89}}, \dfrac{5}{\sqrt{89}}\right)$ on the unit circle? Why or Why not?

10. If $\sin\theta = \dfrac{2}{5}$, then $\sin(-\theta) =$ _____ $\qquad$ 11. If $\cot\theta = -\dfrac{7}{9}$, then $\cot(-\theta) =$ ____

12. If $\cos\theta = \dfrac{2}{3}$, then $\cos(-\theta) =$ _____

13. Where on the unit circle is $\cos\theta = -1$? Name the angle in degrees and radians.

14. Find θ on the interval $0° \le \theta \le 360°$ given $\cos\theta = -.4057$ and θ in QIII.

15. Give exact values for the following trigonometric functions.

$\sin\dfrac{2\pi}{3} =$ $\qquad\qquad\qquad\qquad$ $\tan\dfrac{5\pi}{6} =$ $\qquad\qquad\qquad\qquad$ $\sec\dfrac{7\pi}{4} =$