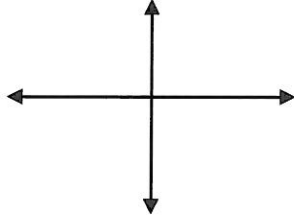


Name: _____
Date: _____ Period: _____

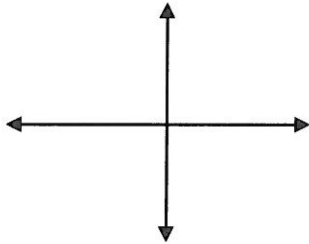
6.1 Practice Problems

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 $\frac{10\pi}{3}$,
 - a. Convert to degree measure.
 - b. Draw the angle in standard position.
 - c. Name the reference angle in both degrees and radians.



3. 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?

4. 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?

5. Suppose that a machine contains a wheel of diameter 3 feet, rotating at a rate of 1600 rpm.

- a) Find the angular speed of the wheel.
- b) Find the linear speed of a point on the circumference of the wheel.

6. A typical tire for a compact car is 22 inches in diameter. If the car is traveling at a speed of 60 mph, find the number of revolutions the tire makes per minute.

7. Earth revolves on its axis once every 24 hours. Assuming that Earth's radius is 6400 km, find the following:

- a) angular speed of Earth in radians per day and radians per hour.
- b) linear speed at the North or South Pole.
- c) linear speed at Quito, Ecuador, a city on the equator.
- d) linear speed at Salem, Oregon (halfway from the equator to the North Pole)