Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_

Arc Length and Area of Sector Application Worksheet

1. Find the arc length traveled in 17 minutes given that the minute hand is 12 cm long.

2. You are working at a pizza delivery store and someone calls in a special order. They want a large pizza (15 inches in diameter) but only 1/10 of the pizza to have pepperoni. What is the area of the pizza that will not have pepperoni on it.

3. A clock has a pendulum 22 cm long. If it swings through an angle of 32°, what is the measure of the arc not traveled by the pendulums swing?

4. A particular man, when standing straight up and facing forward, can swing a leg through an angle of 120 degrees. Find the length of the arc his heel traces for one complete swing of the leg. The length of his leg from the pivot point in his hip to the bottom of his heel is 102 cm.

5. An airplane emits a radar beam that can detect an object up to 10 miles away and covers an angle of 150°. What is the area of the region covered by the radar beam?

6. A small pizza has a diameter of 10 inches. A slice has a central angle of 60°. What is the area of the slice?

7. A rotating sprinkler sprays a stream of water 32 feet long. The sprinkler rotates 220°. What is the area of the portion of the yard that is not watered by the sprinkler.

8. A 40-inch pendulum swings through an angle of 18°. Find the length of the arc in inches though which the tip of the pendulum swings.

9. A Ferris wheel has 16 seats and a diameter of 60 feet. The wheel lets off the passengers in one seat, and then revolves until the next seat is at the platform. Approximately how far does each seat travel in this time?

10. A pumpkin pie is made in a mini pie pan measuring 5 inches in diameter. It is cut into 4 equal slices. What is the area of 1 piece of pie?