3.1 Going Around in Circles

Circumference

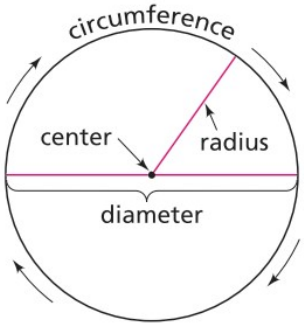
The most popular shape for pizzas is a circle. Many pizza restaurants sell small, medium, and large pizzas. Of course, the prices are different for the three sizes.

- How do you think pizza makers set the prices for pizzas of different sizes?
- Is a large pizza usually the best buy?

The size of a circular pizza is usually described by its diameter. The **diameter** of a circle is any line segment from a point on a circle through the center point to another point on the circle.

Radius, area, and circumference are also useful terms for describing the size of a circle. A **radius** is any line segment from the center of a circle to a point on the circle.

Circumference means perimeter in the language of circles. It is the distance around the circle.



Area is a measure of how many square units it takes to exactly cover the region inside the circle.

To set the prices of pizzas, restaurants might need to find the circumference of each pizza.

What is the relationship between the diameter or radius of a circle and its circumference?

Problem 3.1

A Use a tape measure or string to measure the circumference and diameter of several different circular objects. Make a table like the one below. Record the object name, diameter, circumference, and ratio of circumference to diameter.

Measurements of Circular Objects

Object Name	Diameter	Circumference	Ratio of $\frac{\text{Circumference}}{\text{Diameter}}$

B Study your results from Question A. Look for a pattern relating the circumference and the diameter. Test your ideas on some other circular objects.

1. Can you find the circumference of a circle if you know its diameter? If so, how?
2. Can you find the diameter of a circle if you know its circumference? If so, how?

ACE Homework starts on page 58.