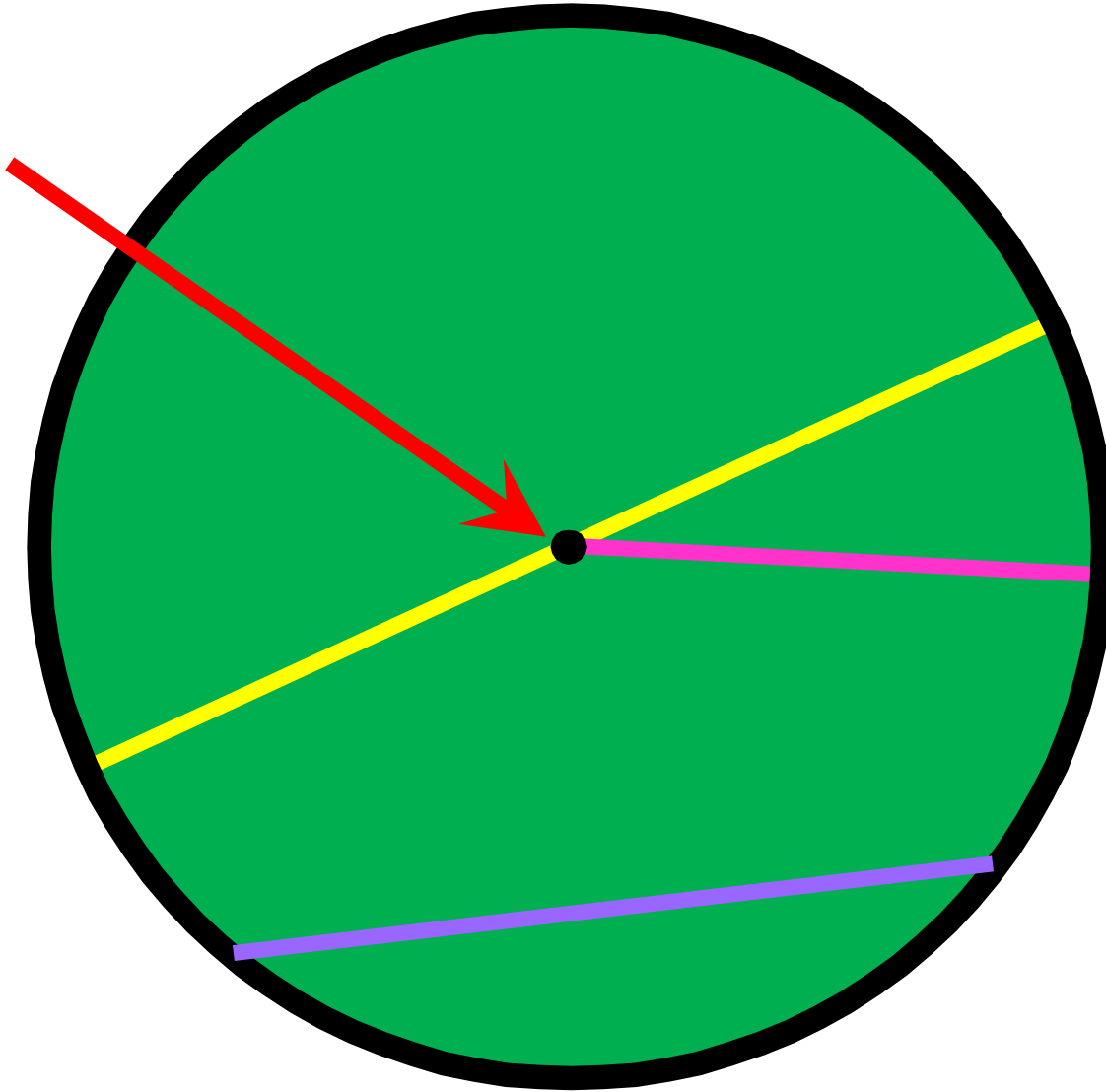# 8.1

Circles and Circumference

DO NOW

1. Compare and contrast the terms *scale* and *scale factor.*

2. The scale of a drawing is 2cm : 1mm. Is the scale drawing *larger* or *smaller* than the actual object? Explain.

DO NOW

3. **How would you find the scale factor of a drawing that shows a length of 4 inches when the actual object is 8 feet long?**
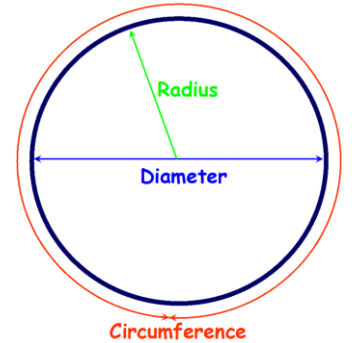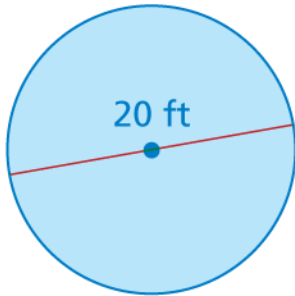
Parts of a circle

The **circumference** is the **perimeter** of a circle.
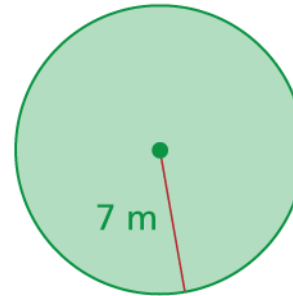
Finding a radius and a diameter

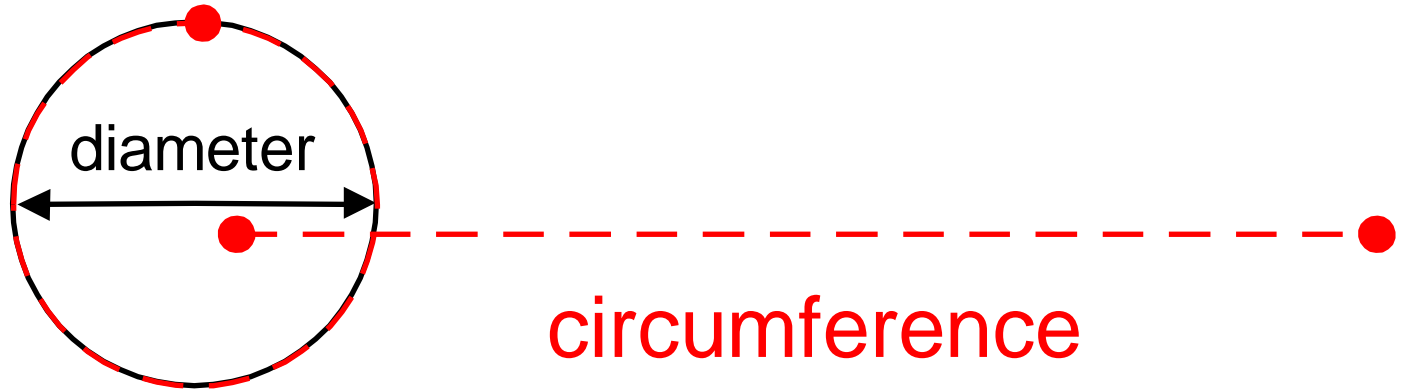What is the relationship between a radius and a diameter of a circle?

a. **The diameter of a circle is 20 feet. Find the radius.**

20 ft

b. **The radius of a circle is 7 meters. Find the diameter.**

7 m

The **circumference** is the distance around a circle.

diameter

circumference

What is the connection between the diameter and the circumference?

Ancient mathematicians found out that the circumference is about a little more than 3 times the diameter.

They found out that that it's more like 3.14.......and so on

Instead of using this long ongoing number they have rounded it to 3.14

This is otherwise known as

π **is usually rounded to 3.14**

π

So, instead of saying

Circumference = 3 X Diameter

We instead say

Circumference = 3.14 X Diameter

Formula for circumference
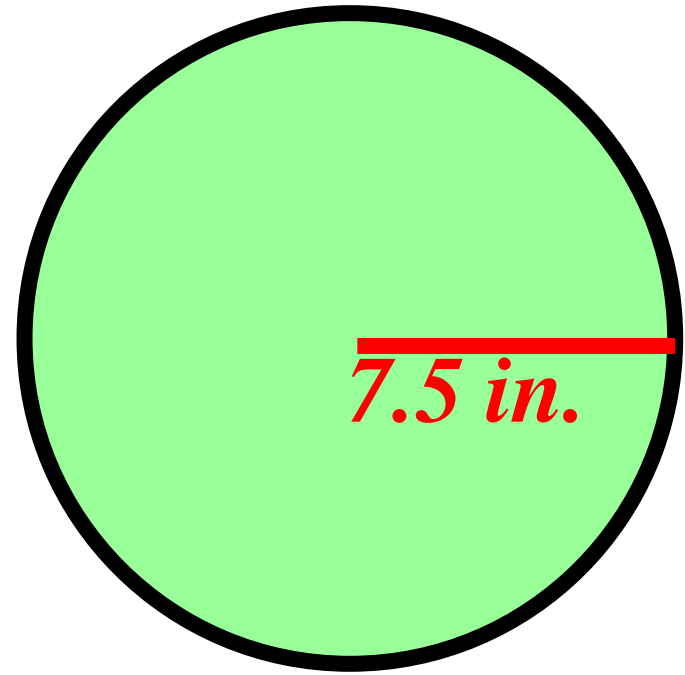
The Circumference Formulas 2

Pi is also known as the ratio between the circumference of a circle and its diameter.

PRACTICE

Find the circumference of the circle.

- **Write the formula**
- **Plug-in the given information**
- **Solve**

7.5 in.

Approximate Form

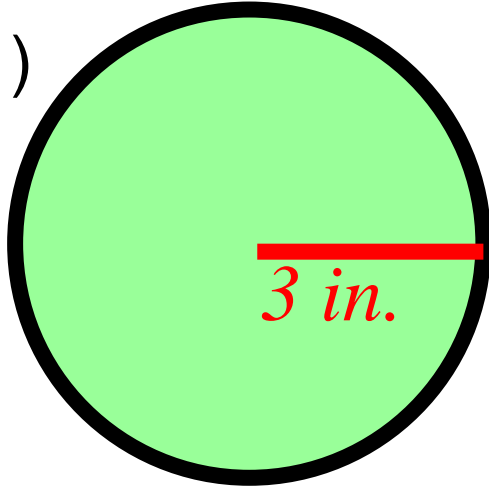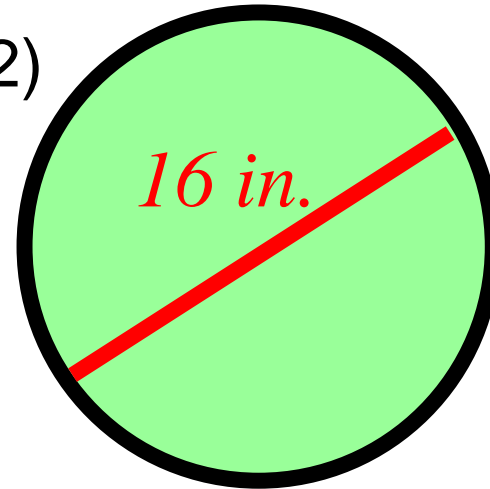**Exact Form**

PRACTICE

- Write the formula
- Plug-in the given information
- Solve

Find the circumference of the circle in which π = 3.14.

1)

3 in.

2)

16 in.

PRACTICE

- Write the formula
- Plug-in the given information
- Solve

Find the circumference of the circle

5 in.

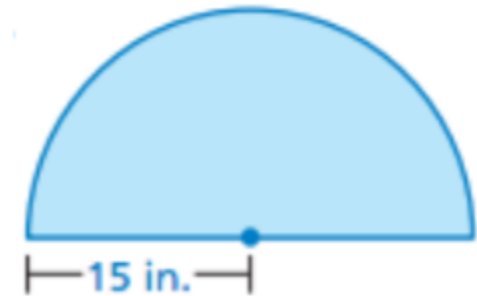3) **Find the circumference of the flying disc. Use 3.14 for π.**

28 mm

4) **Find the circumference of the watch face. Use $\dfrac{22}{7}$ for π.**

PRACTICE

Find the circumference of the circle

- Write the formula
- Plug-in the given information
- Solve

2 cm

5) **Find the circumference of the flying disc. Use 3.14 for π.**

14 ft

6) **Find the circumference of the watch face. Use $\dfrac{22}{7}$ for π.**

A **semicircle** is one-half of a circle. Find
the perimeter of the semicircular region.

- Find the circumference
- Find half the circumference
- Add the straight side

⊢15 in.⊣

Finding the Perimeter of a Semicircular Region

A **semicircle** is one-half of a circle. Find the perimeter of the semicircular region.

- Find the circumference
- Find half the circumference
- Add the straight side

6 m