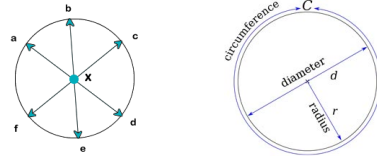# Circles

Definitions

- A circle is a shape where all of its points are _____ from the center.

- The _____ is the distance from the center to any point on the circle.

- The _____ is the distance between any two points on the circle while going through the center.

- The _____ is the distance around the circle. This is similar to the _____.

Time for Pi?

- If you measure the distance around a circle (circumference) and divide it by the distance across the circle through the center (diameter), you will always come close to an approximate value of 3.14159265358979323846...

- We use the Greek letter π to represent this value. The number goes on forever. However, for our calculations, we will round to 3.14.

$$\pi = \frac{circumference}{diameter}$$

The area of a circle can be found by multiplying pi (π = 3.14) by the radius squared. Find the area of the circle below.

Answer

5 cm

Area of a Circle = πr^2

Find the Area of the Circles

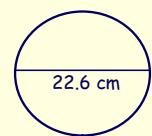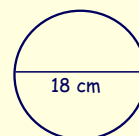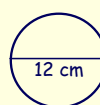r = 2 cm

d = 1 cm

_____

_____

r = 1.5 cm

d = 5 cm

_____

_____

Finding Circumference using the Diameter

The distance across a circle through the center is called the **diameter**. When given the diameter of a circle, you can find the circumference by using a simple formula.

Circumference = _____

Diameter

Using the formula provided, find the circumference of the following circles.

12 cm

18 cm
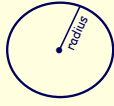
22.6 cm

_____

_____
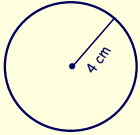
_____

Notes - Circles

Finding Circumference using the Radius

A straight line from the center of a circle to one of its points is a called the radius. When given the radius of a circle, you can find the circumference by using a simple formula.
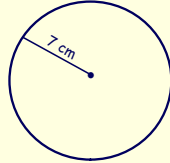
Circumference = _____

radius

Using the formula provided, first find the circumference of the circles.

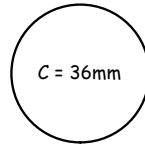4 cm

2.2 cm

7 cm

_____   _____   _____

But can we go... backwards??

How can we find the radius or diameter of a circle when we are only given the circumference?
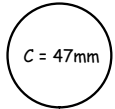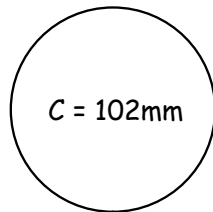
Find the radius of the circle below.

C = 36mm

_____

Find the diameter of the circle below.

C = 16mm

_____

Try a couple more!

Find the radius and diameter of both circles below.

C = 47mm

C = 102mm

_____
_____

_____
_____

2 in

The radius of this pizza is 2 inches. What is the diameter?

The radius of this wheel is 4 inches. What is the circumference?

4 in

The diameter of this CD is 11 cm. What is the circumference?

The diameter of this coin is 10 mm. What is the radius?

10 mm

Can you fill in the table

Round your answers to the nearest tenth place.

Radius	Diameter	Circumference	Area
	8 cm		
		22 cm	