Radius

$$A=\pi r^2$$

Circles, Circles Everywhere!

radius, diameter, circumference & more...

Diameter

$$C=\pi d$$

Circles, Circles Everywhere!

Common Core Standard:

7th Grade

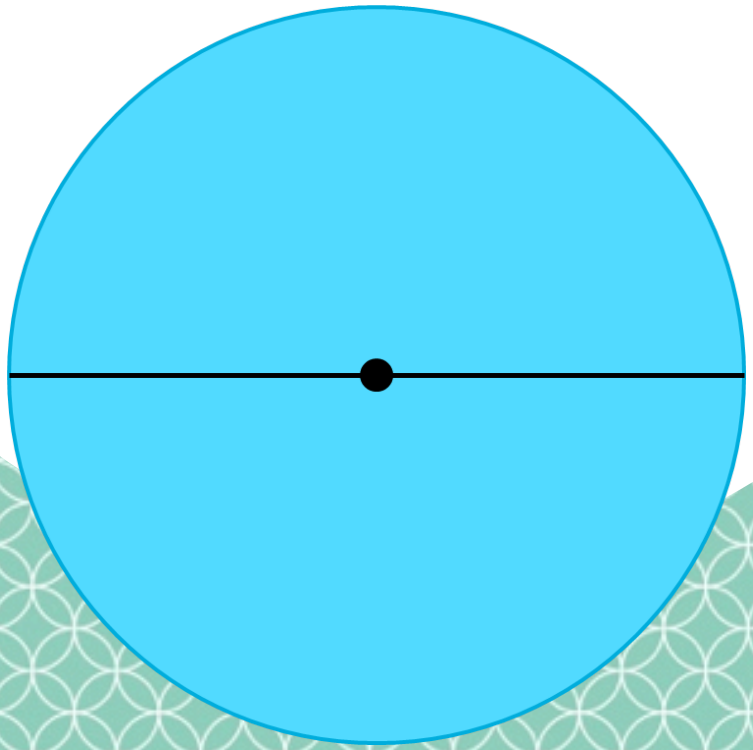
CCSS.Math.Content.7.G.B.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Circles, Circles Everywhere!

Table of Contents

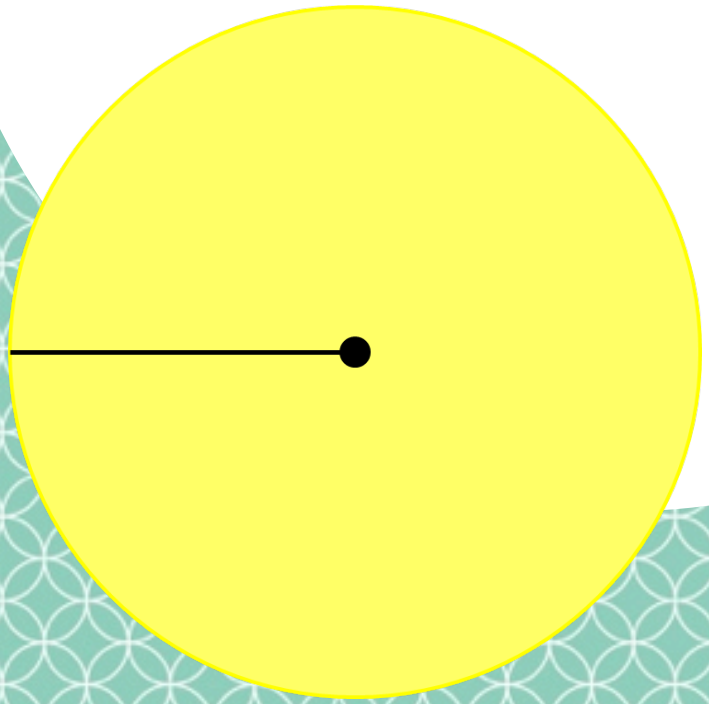
diameter

The distance across a circle through its center.



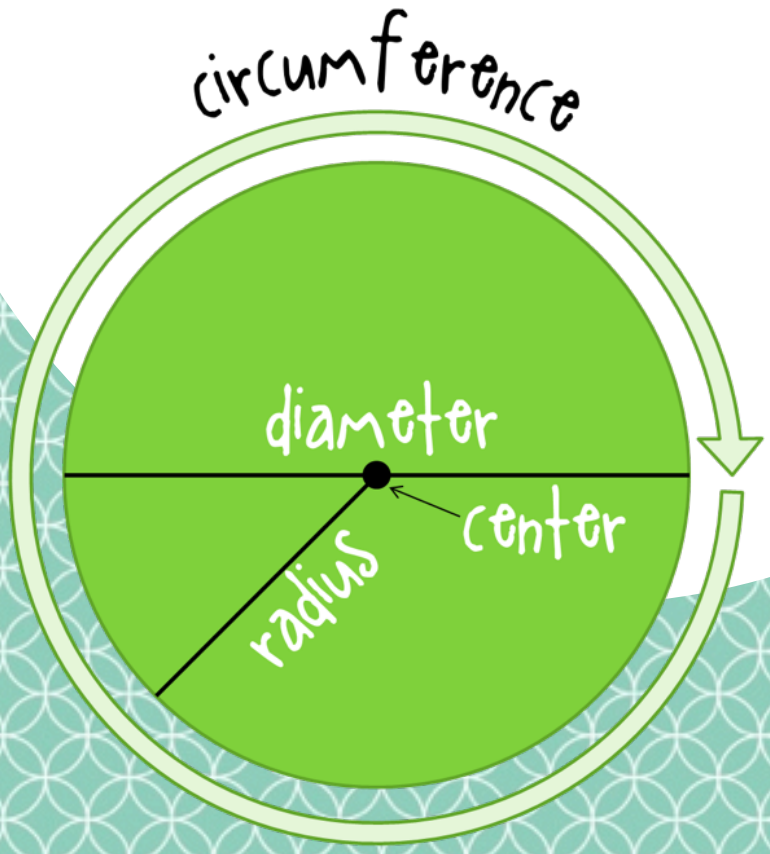
radius

The distance from the center of a circle to a point on the circle.



circumference

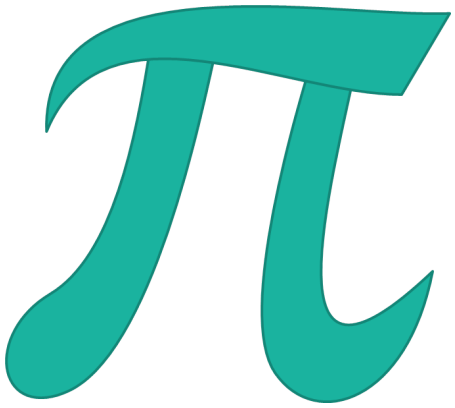
The distance around a circle.



COMPASS

A tool used to draw circles and arcs.

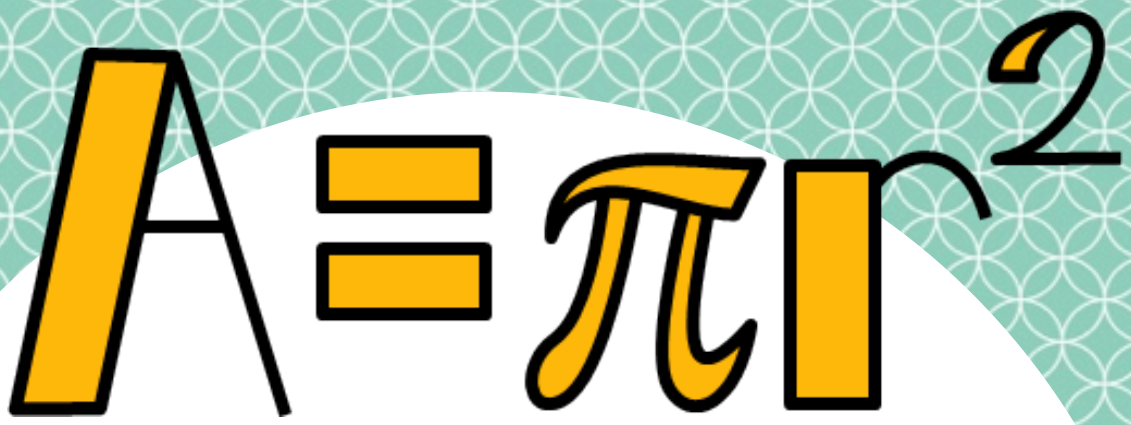
What is Pi?



3.14

Pi is the circumference of a circle divided by its diameter.

$$\pi = \frac{C}{d}$$



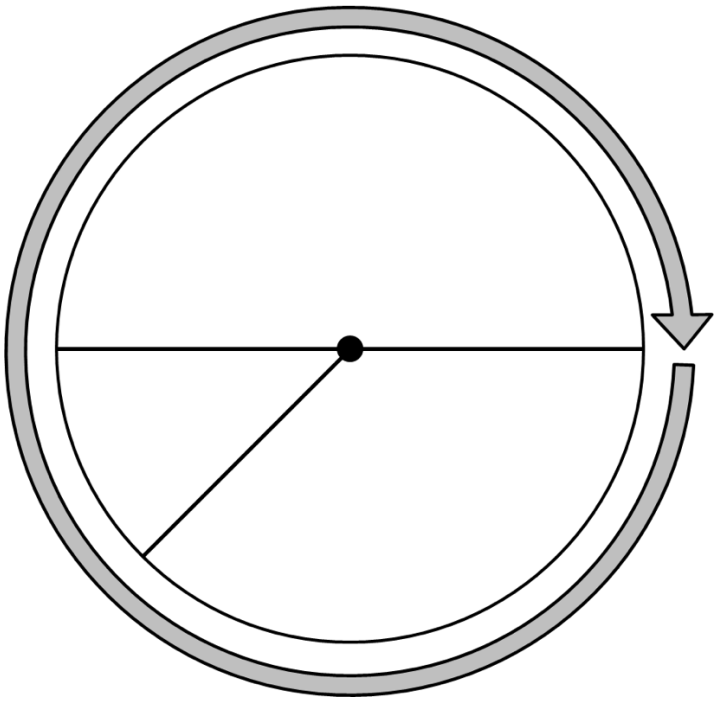
What is the area of a circle?

The area of a circle is Pi multiplied by the radius squared.

radius & diameter

Name: _____

Label the radius and the diameter on this circle.



1. A circle has a radius of 12 cm. What is the diameter of the circle? _____
2. A circle has a diameter or 8 inches. What is the radius of the circle? _____
3. A circle has a radius of 16 cm. What is the diameter of the circle? _____
4. A circle has a radius of 9 inches. What is the diameter of the circle? _____
5. A circle has a diameter of 20 mm. What is the radius of the circle? _____
6. A circle has a diameter of 26 inches. What is the radius of the circle? _____
7. A circle has a radius of 14 cm. What is the diameter of the circle? _____
8. A circle has a diameter of 32 cm. What is the radius of the circle? _____

COMPASS

Practice

Name: _____

Practice using a compass on the front and back of this paper.

Begin by drawing a circle with a 1 inch radius.

COMPASS

Name: _____

Practice using a compass.

Draw a circle with a 2 cm. radius.

Draw a circle with a 3 cm. radius.

On the back of this paper draw a circle with a 5 cm. radius.

Name: _____

3.14

Because pi is the same for every circle, we can use it to determine the diameter if we know the circumference, or vice versa.

$$C = \pi d$$

The diameter of a circle is 2 inches. What is the circle's circumference?

$$C = 3.14 \times 2$$

Since we know the diameter is 2 inches, we can multiply 2 inches by pi (3.14) and get the circumference.

$$C = 6.28$$

Therefore, the circumference of the circle is **6.28 inches.**

Now you try.....

1. The diameter of a circle is 16 inches. What is the circle's circumference?

2. The diameter of a circle is 12 cm. What is the circle's circumference?

3. The diameter of a circle is 9 inches. What is the circle's circumference?

Name: _____

$C = \pi d$

More Practice

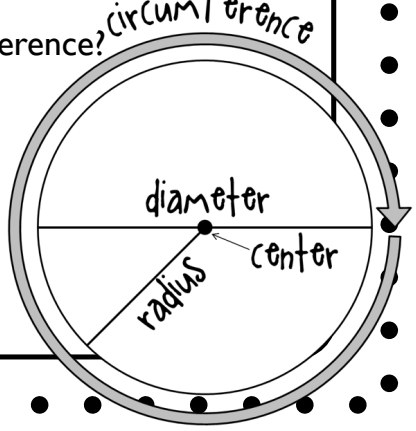
1. A circle has a diameter of of 8 cm. What is the circle's circumference?

2. A circle has a diameter of of 13 inches. What is the circle's circumference?

3. A circle has a diameter of of 19 mm. What is the circle's circumference?

4. A circle has a diameter of of 10 inches. What is the circle's circumference?

5. A circle has a diameter of of 22 mm. What is the circle's circumference?

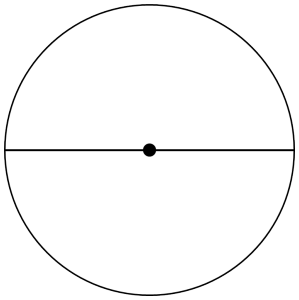


Name: _____

$$A = \pi r^2$$

If you know the radius of a circle, you can find the area.

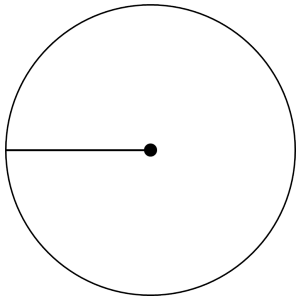
A circle has a radius of 2 cm. What is the area?



$A = 3.14 \times (2)^2$

$A = 3.14 \times 4$

$A = 12.56$ cm.



Now you try.....

1. A circle has a radius of 8 cm. What is the area of the circle?

2. The radius of a circle is 15 inches. What is the area of the circle?

3. A circle has a radius of 21 cm. What is the area of the circle?

Name: _____

$$A = \pi r^2$$

More Practice

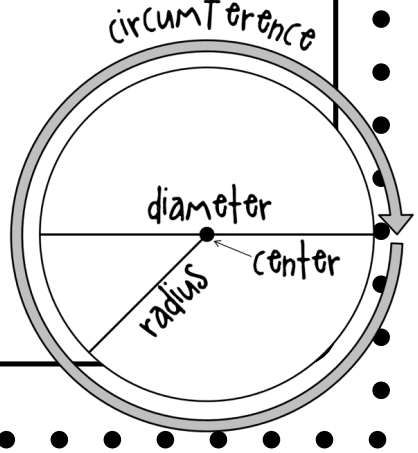
1. The radius of a circle is 14 inches. What is the area of the circle?

2. The radius of a circle is 21 inches. What is the area of the circle?

3. The radius of a circle is 6 cm. What is the area of the circle?

4. The radius of a circle is 18 mm. What is the area of the circle?

5. The radius of a circle is 16 cm. What is the area of the circle?



Paper Plate Activity

Materials:
large paper plate, a ruler, and crayons.

1. Use the ruler to draw and label the diameter and radius.

2. Using the ruler measure the diameter and radius.

3. Next, find the circumference and area of the paper plate

4. Cut out the worksheet below and write the measurements of the plate. Glue it to the back of your plate.

4. Finally, decorate it!

Paper Plate Activity

Name:_____

1. What is the radius of your paper plate?_____

2. What is the diameter? _____

3. What is the circumference? _____

4. What is the area? _____

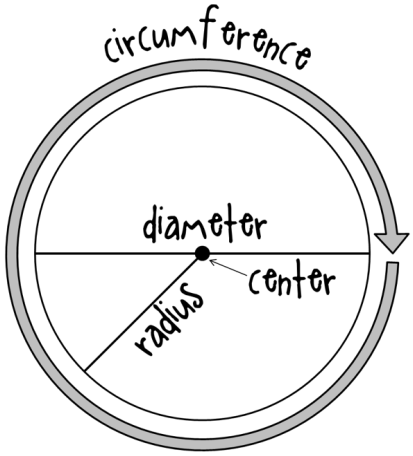
Circles, Circles Everywhere

Materials:
Paper, Compass, and crayons.

After students have practiced using a compass and feel comfortable drawing circles give them a blank piece of paper. Have your students draw a bunch of circles all over the page. It's ok if they overlap! That's what makes the page look really neat at the end!

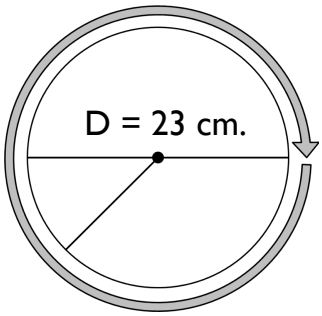
Once the students are happy with their circles, they can begin coloring. Using crayons, they should color each section a different color, making sure that no two touching sections are the same color. (I usually draw a few overlaping circles and color them to model this!)

Here's some examples....

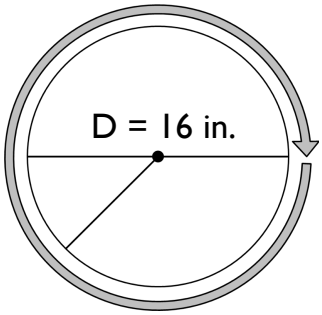


Circle Challenge

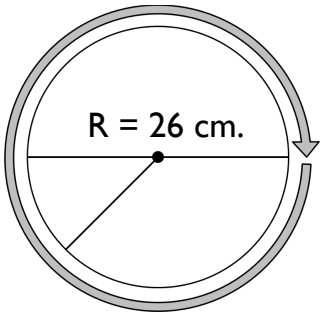
Name: _____



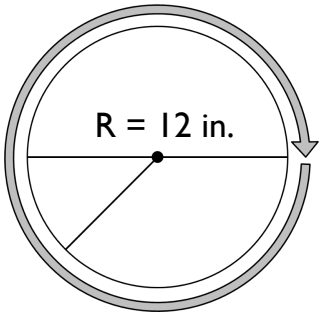
Radius _____
Diameter _____
Circumference _____
Area _____



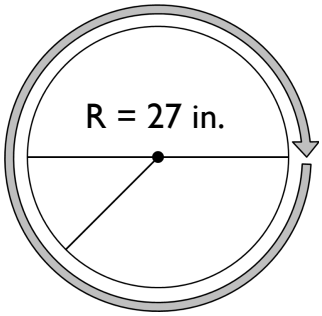
Radius _____
Diameter _____
Circumference _____
Area _____



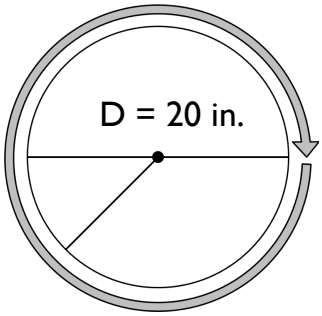
Radius _____
Diameter _____
Circumference _____
Area _____



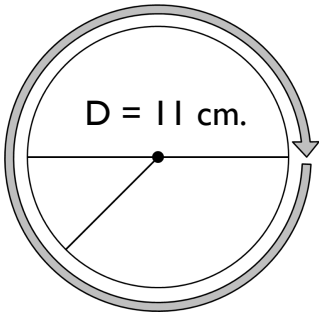
Radius _____
Diameter _____
Circumference _____
Area _____



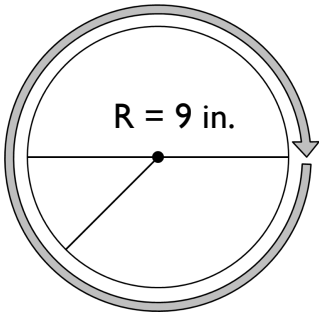
Radius _____
Diameter _____
Circumference _____
Area _____



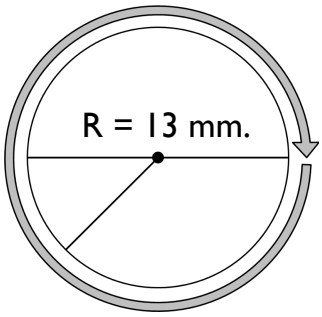
Radius _____
Diameter _____
Circumference _____
Area _____



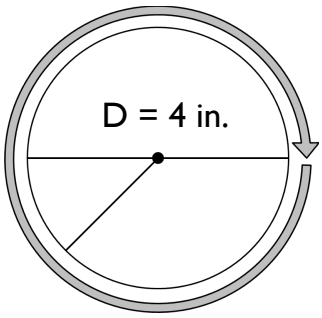
Radius _____
Diameter _____
Circumference _____
Area _____



Radius _____
Diameter _____
Circumference _____
Area _____

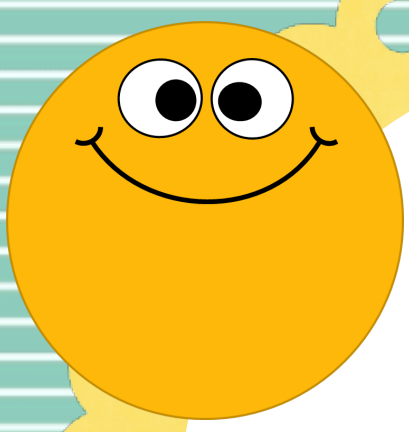


Radius _____
Diameter _____
Circumference _____
Area _____



Radius _____
Diameter _____
Circumference _____
Area _____

Circles, Circles Everywhere!



I hope you enjoy this product!

Free to Teach

Credits:

Fonts from
www.kevinandamanda.com

Graphics from

http://www.teacherspayteachers.com/Store/The-Enlightened-Elephant

and KHD_Candystore