Warm Up

Remember when we find the percent of a whole number we must change the percent to a decimal and multiply.

Teacher Model

1. What is 60% of 120?

Students:

2. What is 25% of 360? WB

Vocabulary

circle

center of a circle

arc

radius

diameter

chord

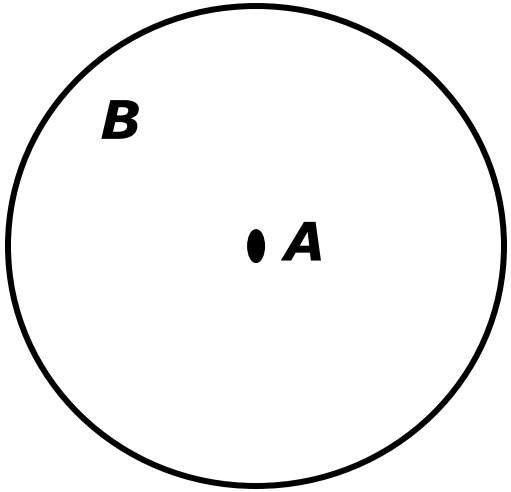
central angle

sector

A **circle** is the set of all points in a plane that are the same distance from a given point, called the **center of a circle**. This distance is called the ***radius*** of the circle.

A circle is named by its center. For example, if point *A* is the center of a circle, then the name of the circle is circle *A*. There are special names for the different parts of a circle.

How do we name a circle? ***Ps/nv x2***



What is the name of this circle?

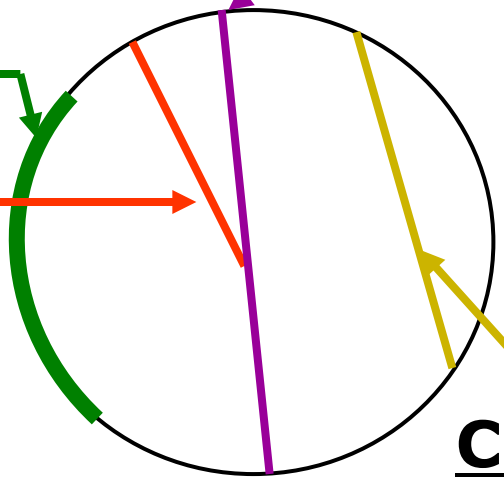
WB

How do you know?

Ps/nv x2

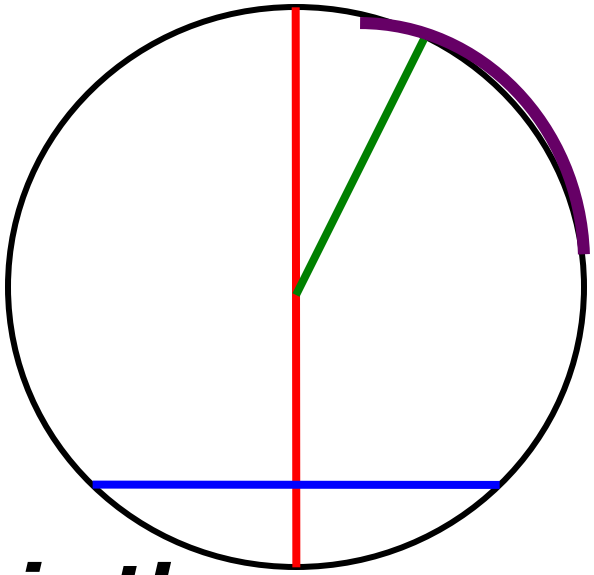
Arc
Part of a circle named by its endpoints

Radius
Line segment whose endpoints are the center of a circle and any point on the circle



Diameter
Line segment that passes through the center of a circle, and whose endpoints lie on the circle

Chord
Line segment whose endpoints are any two points on a circle



What color is the…

Radius?

Diameter?

wb

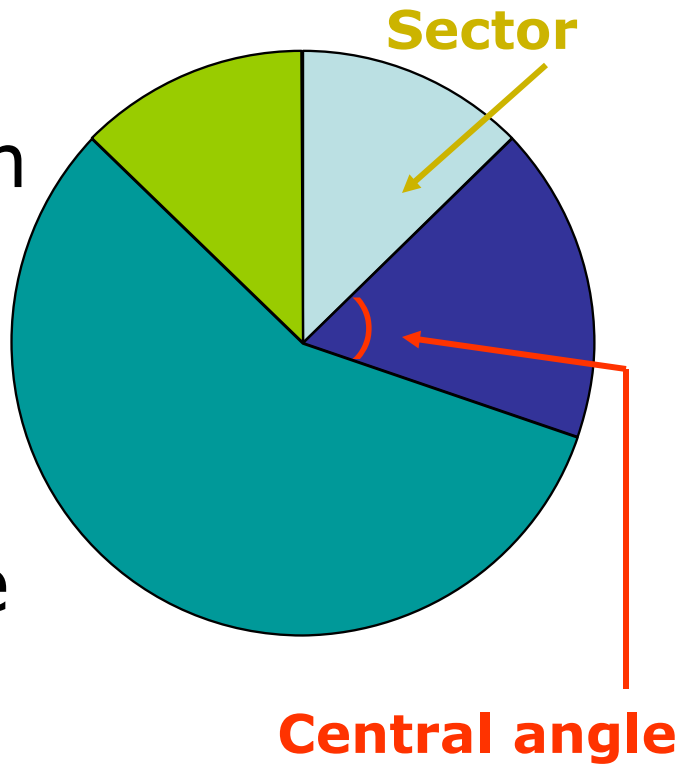
Arc?

Chord?

How did you know?

Ps/nv x2

A **central angle** of a circle is an angle formed by two radii. A **sector** of a circle is the part of the circle enclosed by two radii and an arc connecting them.



The sum of the measures of all of the central angles in a circle is 360°. We say that there are 360° in a circle.

What is the sum of all central angles in a circle?

PS/WB

Why is it important to know about parts of a circle?

It will help you read and interpret circle graphs?

You will need to know about the parts of a circle in Algebra and Geometry.

It will be tested.

Why is it important to know about the parts of a circle? Tell your partner. You can use one of my reasons or use one of your own.

ps/volunteers

Name the parts of circle *M*.

1. Identify what you are looking for.
2. Name your starting point.
3. Name your ending point.

A. radii: $\overline{MN}$, $\overline{MR}$, $\overline{MQ}$, $\overline{MO}$

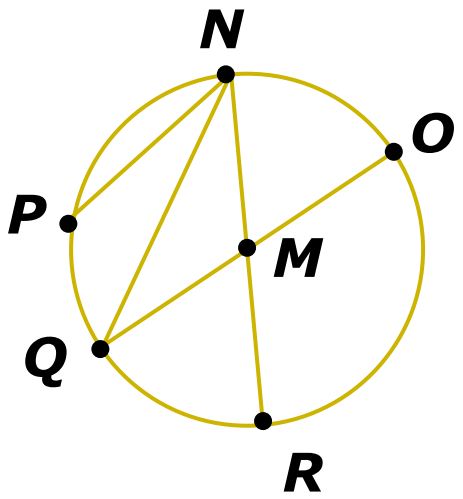
How did I/we name the radii? ps

B. diameters: $\overline{NR}$, $\overline{QO}$

How did I/we name the diameter?

C. chords: $\overline{NR}$, $\overline{QO}$, $\overline{QN}$, $\overline{NP}$

How did I/we know ___ was a chord?



Reading Math

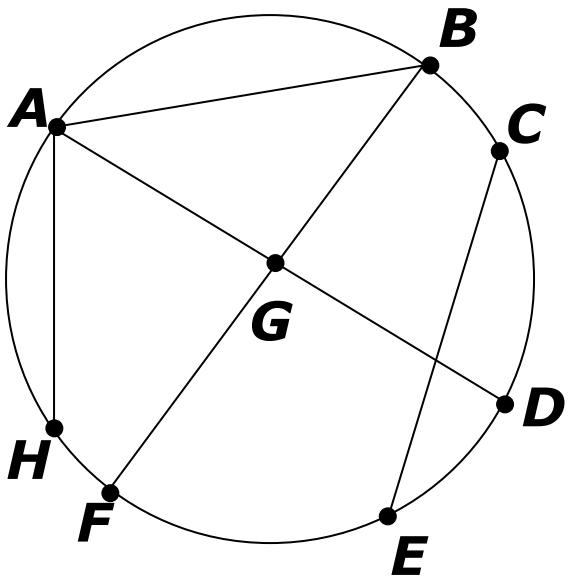
Radii is the plural form of *radius*.

Name the parts of circle *M.*

A. radii: $\overline{GB}$, $\overline{GA}$, $\overline{GF}$, $\overline{GD}$

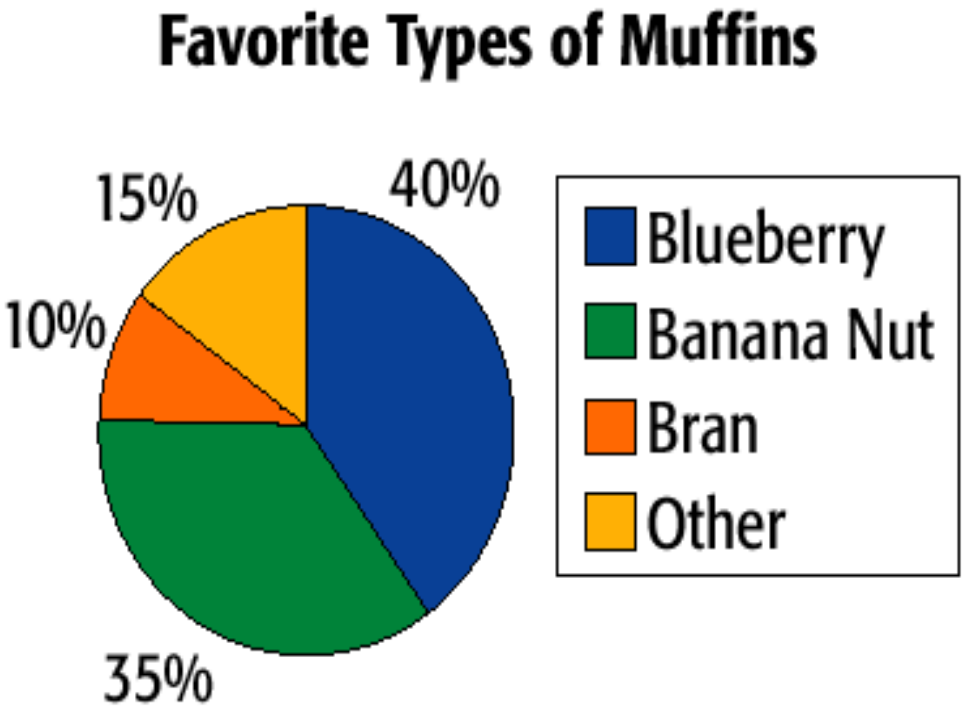
B. diameters: $\overline{BF}$, $\overline{AD}$

C. chords: $\overline{AH}$, $\overline{AB}$, $\overline{CE}$, $\overline{BF}$, $\overline{AD}$



1. Read the problem
2. Identify the percentage of the sector
3. Change the percent to a decimal
4. Multiply the decimal by 360^{o}

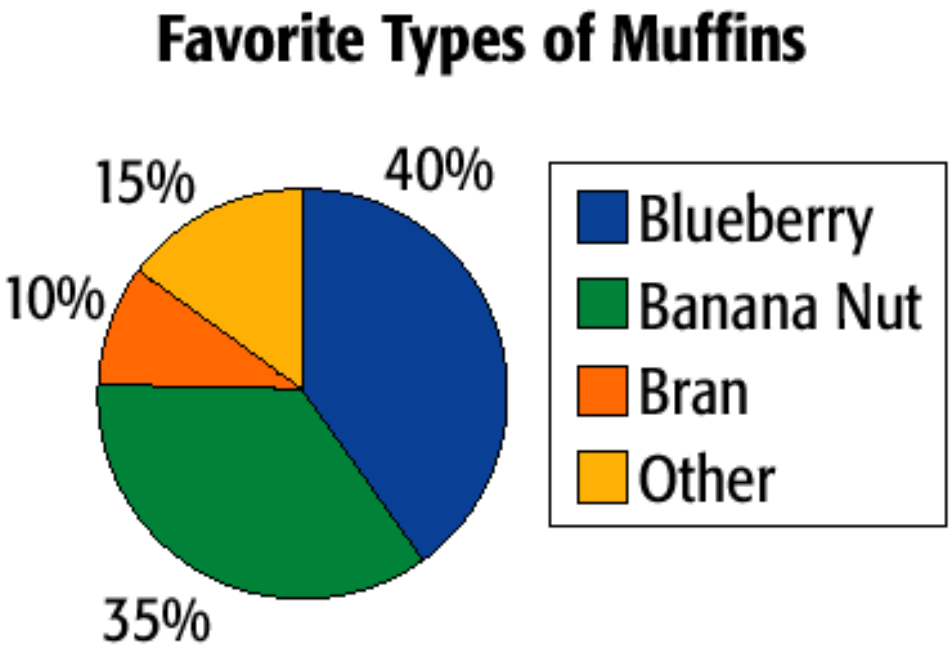
The circle graph shows the results of a survey about favorite types of muffins. Find the central angle measure of the sector that shows the percent of people whose favorite type of muffin is blueberry.



How did I find the measure of the central angle? Ps/nv
Why did I multiply by 360^{o}? Ps/ nv

1. Read the problem
2. Identify the percentage of the sector
3. Change the percent to a decimal
4. Multiply the decimal by 360^{o}

The circle graph shows the results of a survey about favorite types of muffins. Find the central angle measure of the sector that shows the percent of people whose favorite type of muffin is banana nut.



How did we find the measure of the central angle? ps/nv
Why did we multiply by 360^{o}? Ps/ nv

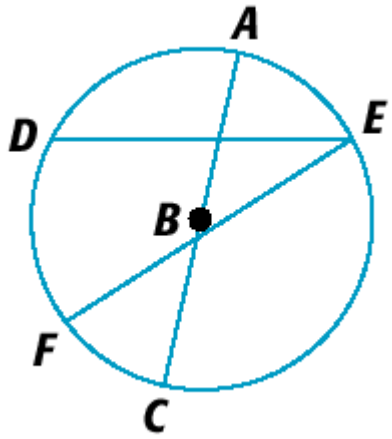
Closure

Name the parts of circle *B*.

1. radii $\overline{BA}$, $\overline{BC}$

2. diameter(s) $\overline{AC}$

3. chord(s) $\overline{DE}$, $\overline{FE}$, $\overline{AC}$



4. What is the measure of the central angle of a circle when the sector represents 25% of the circle?

What is something you learned today about circles?