

*7<sup>th</sup> Grade*

## *California Standards*

***MG3.1 Identify and construct basic elements of geometric figures (e.g., altitudes, midpoints, diagonals, angle bisectors, and perpendicular bisectors; central angles, radii, diameters, and chords of circles) by using a compass and straightedge.***

***We will identify parts of a circle and find  
central angle measures***

***Teacher Reads  
Students Read  
P/S , NV x2***

## *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***

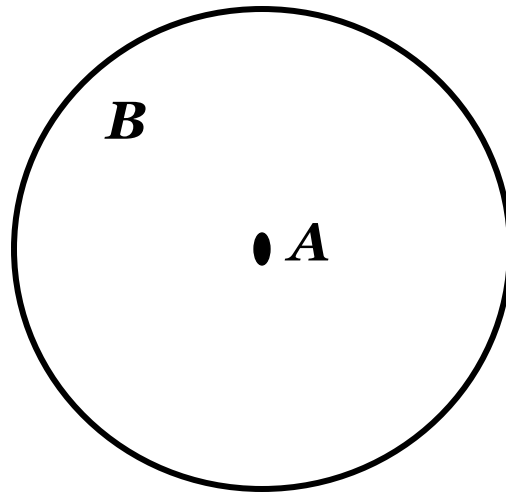
***sector***

***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**

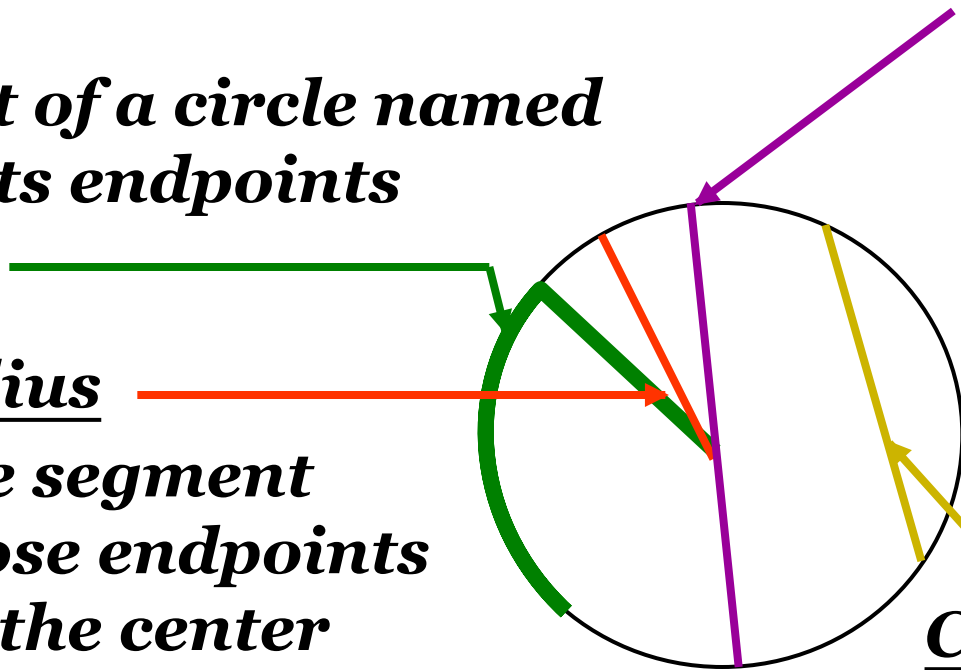
***Line segment whose endpoints are the center of a circle and any point on the circle***

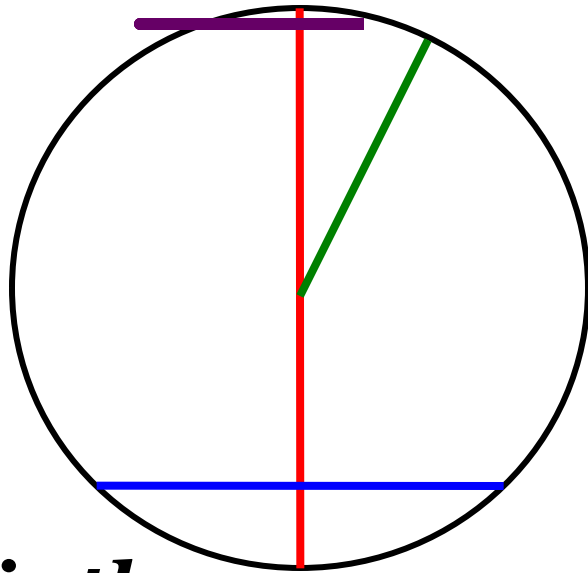
**Diameter**

***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?***

***Arc?***

*wb*

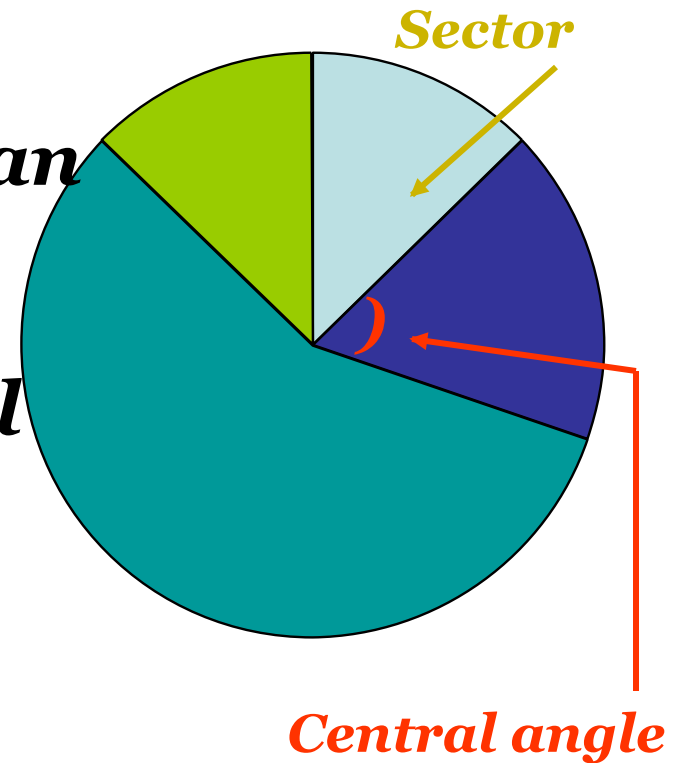
***Chord?***

***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  $360^\circ$ . We say that there are  $360^\circ$  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:**  $\overline{MN}$ ,  $\overline{MR}$ ,  $\overline{MQ}$ ,  $\overline{MO}$

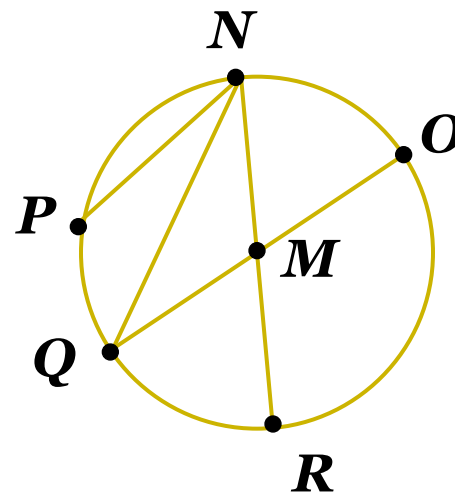
*How did I/we name the radii? ps*

**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?*

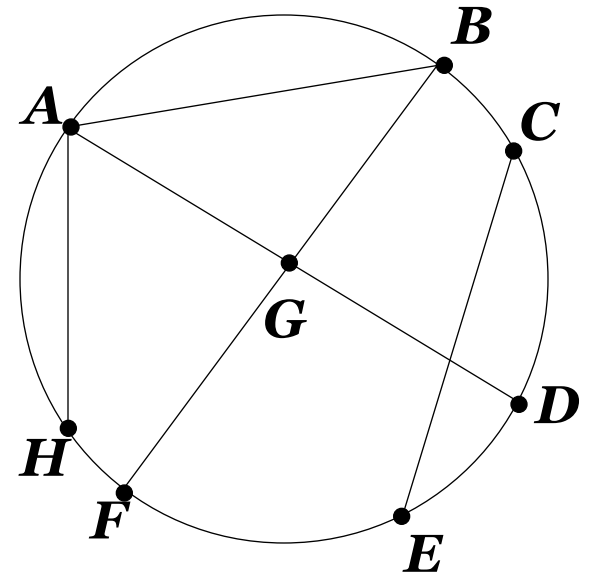


***Name the parts of circle M.***

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

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

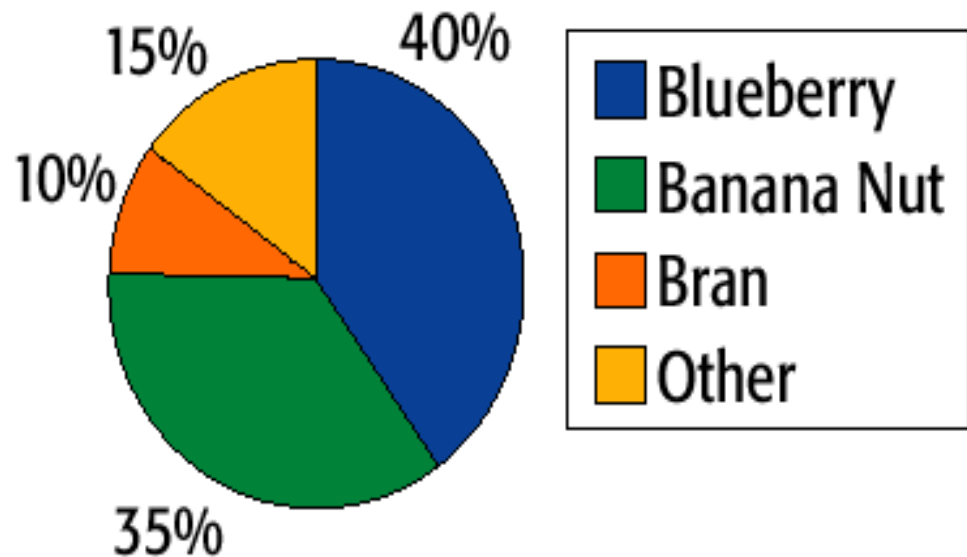
***C. chords:  $\overline{AH}, \overline{AB}, \overline{CE},$   
 $\overline{BF}, \overline{AD}$***



- 1. Read the problem***
- 2. Identify the percentage of the sector***
- 3. Change the percent to a decimal***
- 4. Multiply the decimal by  $360^\circ$***

***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.***

**Favorite Types of Muffins**

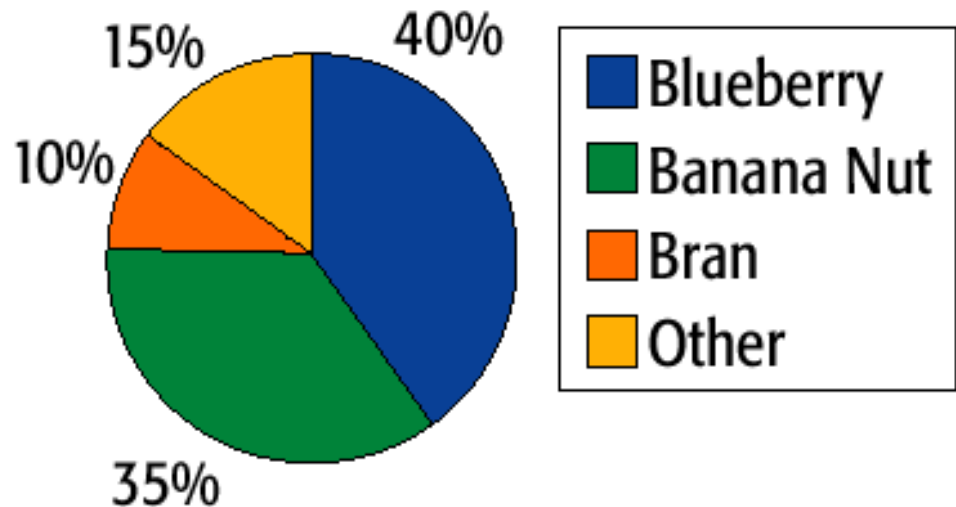


***How did I find the measure of the central angle? Ps/nv***  
***Why did I multiply by  $360^\circ$ ? Ps/ nv***

- 1. Read the problem***
- 2. Identify the percentage of the sector***
- 3. Change the percent to a decimal***
- 4. Multiply the decimal by  $360^\circ$***

***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.***

**Favorite Types of Muffins**

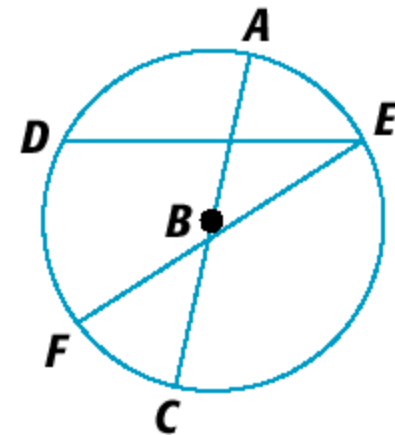


***How did we find the measure of the central angle? ps/nv***  
***Why did we multiply by  $360^\circ$ ? Ps/ nv***

## 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?*

***Independent Practice:***

***HOLT chapter 9 lesson 3***