


Pick up a blue, yellow
and green sheet from
the front.

Warm Up:

1. How would you define a circle?

2. What is the formula for circumference and
area of a circle?

$$A = \pi r^2$$


$$C = \pi d$$
$$C = 2\pi r$$

Learning Goal: Today I will learn about arcs.

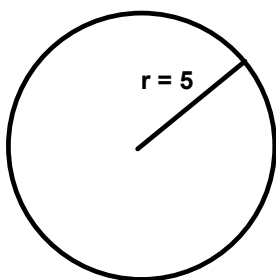
Success Criteria: I am able to identify major and minor arcs and determine the measure of an arc.

10-6 Circles and Arcs

Circumference

$$c = \pi d \text{ or } c = 2\pi r$$

Find the circumference



a. In terms of π

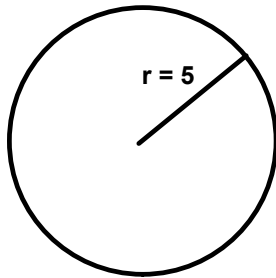
$$C = 2\pi r$$
$$C = 2\pi 5$$
$$C = 10\pi$$

b. to the nearest 10th

$$C = 10(3.14)$$
$$31.4$$

Area

$$A = \pi r^2$$



Find the area

a. In terms of π

b. to the nearest 10th

$$A = \pi r^2$$

$$A = \pi 5^2$$

$$A = 25\pi$$

$$A = 25(3.14)$$

$$A \approx 78.5$$

*Circle

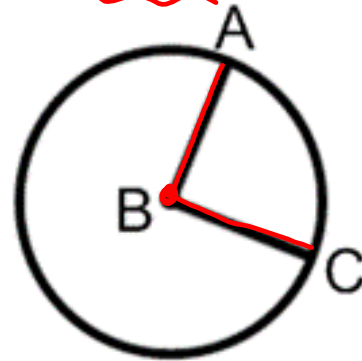
The set of all points equidistant from a given center. (point)

Congruent circles have the congruent radii.

Turn and talk...answer 3 questions

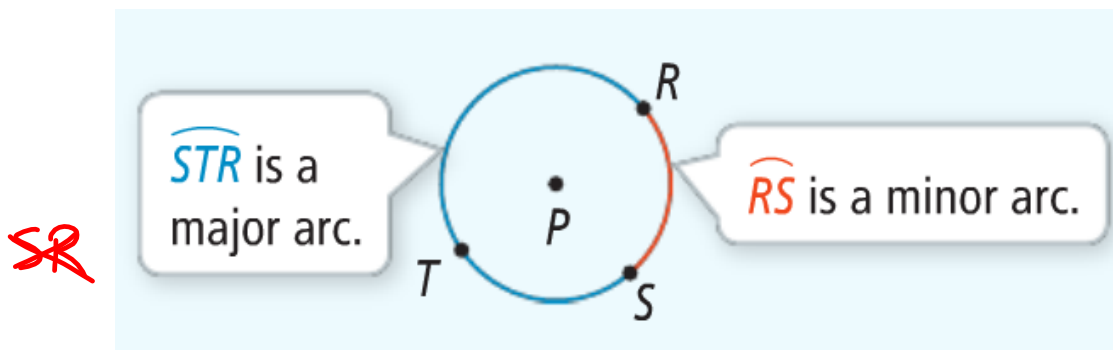
*Central Angle

An angle whose vertex is at the center of the circle.



*Arcs

Arc - a piece of the circumference



Semi-circle - an **arc** that is **half** of a circle.

Minor arc - **less** than **half** of a circle.

Major arc - **more** than **half** of a circle.

Example

For circle A:

- name all the minor arcs

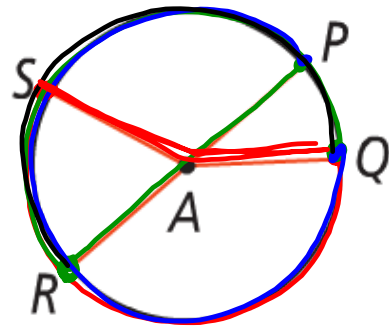
\widehat{PQ} \widehat{SR} \widehat{SP} \widehat{QR} \widehat{SQ}

- name all the major arcs

\widehat{SRQ} \widehat{QSR} \widehat{PSQ} \widehat{RPQ}

- name at least 3 central angles

$\angle SAQ$ $\angle RAP$ $\angle SAR$

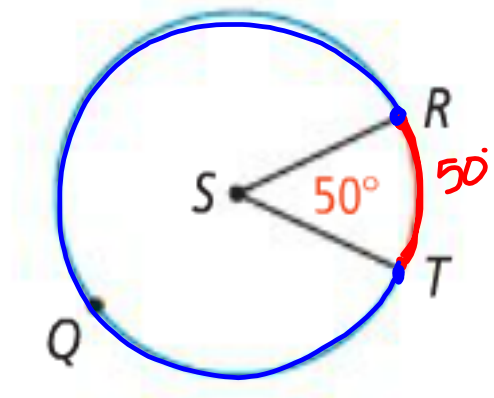


Arc Measure

Arc measure is equal to its central angle.

$$m\widehat{RT} = m\angle RST = 50$$

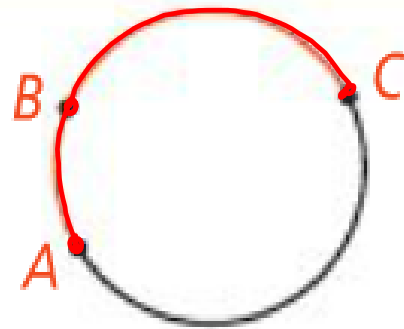
$$\begin{aligned} m\widehat{TQR} &= 360 - m\widehat{RT} \\ &= 310 \end{aligned}$$



*Arc Addition Postulate

Measure of the arc formed by **two smaller arcs** is the **sum** of the measures of the arcs.

$$m\widehat{ABC} = m\widehat{AB} + m\widehat{BC}$$



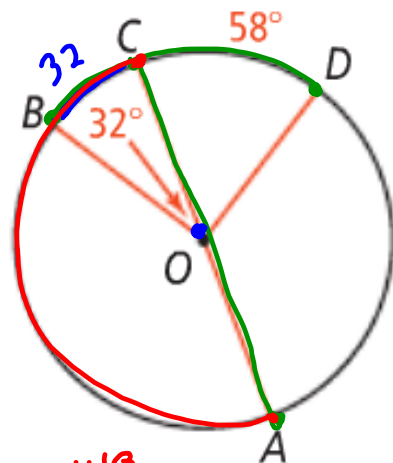
Arc Measure

Find the measure of each arc in circle O.

$$m\widehat{BC} = 32$$

$$m\widehat{BD} = 32 + 58 = 90$$

$$m\widehat{ABC} = \frac{360}{2} = 180 \quad m\widehat{AB} = 180 - 32 = 148$$



Closure: Today I learned about major and minor arcs. I also learned how to find the measure of an arc.