

Geometry B Live Lesson Class

U5L6 – Circles and Arcs

(Ch 10-6 in textbook)



Agenda



1. Review topics and problems from Unit 5, Lesson 6 – Circles and Arcs

2. Use the 2-column note system to take better notes in math class. Bring your math notebook and pen or pencil to each math LiveLesson class.

2-Column Notes Template



1. Announcements/To Do's
2. School-Wide Learner Outcomes
3. LL Objectives
4. Vocabulary words
5. Problems
6. Summary (End of class)

1. Write down important details.
2. What are you going to work on this week?
- 3.
4. Definitions (fill in as we go)
5. Steps to solving problems
6. 1 or 2 sentences about the LL class.

Reminders and To – Do's



Information

1. Complete 1 math lesson per day.
2. Check your WebMail every day
3. Be prepared to spend 4 - 6 hours per day on schoolwork.
4. Remind your Learning Coach to take daily attendance

What to do

1. Go to your Planner in Connexus to find the math lesson for the day
2. Go to Connexus to find WebMail
3. Complete lessons for the day from your Planner. Do not get behind on lessons.
4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's



Information

5. Go to the Message Board first for information about our math class.

6. Contact Mr. Elizondo for math questions.

Remember: You need at least 2 phone calls with Mr. Elizondo per semester.

What to do

6. Call (559) 549 - 3244 and leave a voicemail if call is not answered.

Make an appointment at:
<https://elizondo.youcanbook.me>

Send a WebMail

U5L6 – California Common Core State Standards



- HSG-CO.A.1: Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

U5L6 – Objectives



- Find the measures of central angles and arcs
- Find the circumference and arc length

U5L6 – Vocabulary

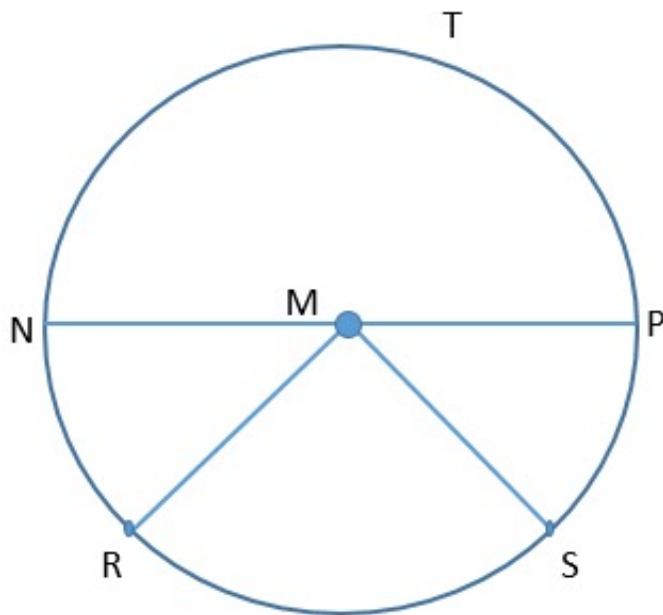


- adjacent arcs
- center
- central angle
- circle
- circumference
- concentric circles
- congruent arcs
- congruent circles
- diameter
- major arc
- minor arc
- pi
- radius
- Semicircle
- sector of a circle
- segment of a circle

U5L6 – Circles and Arcs



Parts of a Circle



Fill in the blanks.

M is the center of the circle

\overline{MR} is a radius of the circle.

\widehat{NR} is a minor arc.

\widehat{RTS} is a major arc.

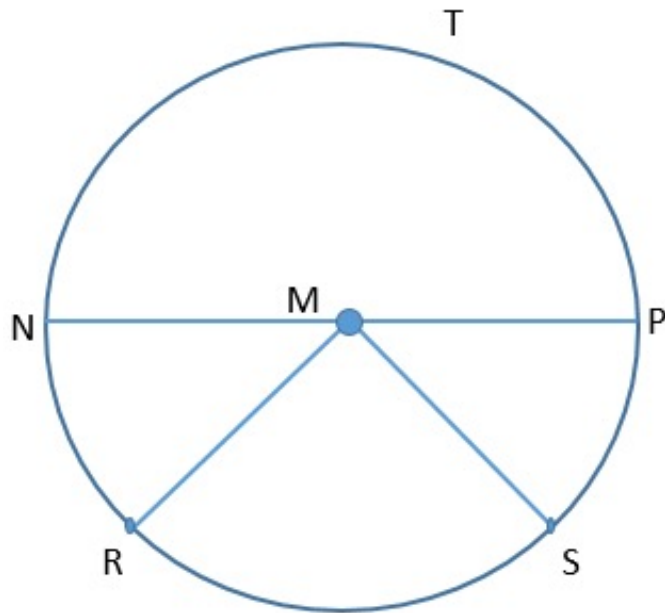
\widehat{NTP} is a semicircle.

$\angle RMS$ is known as a central angle because its vertex is the center of the circle.

U5L6 – Measure of an Arc



Measure of arc = measure of central angle



If we know that the $m\angle RMS$ is 86° , what is...

Measure of \widehat{RS} ? 86°

Measure of \widehat{RTS} ? 274°

U5L6 – Circumference and Arc Length



Circumference of a circle

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

For π use 3.14 or $\frac{22}{7}$

Find the radius of the circle with circumference of 20 feet.

$$20 = 2\pi r$$

$$\frac{20}{2\pi} = r$$

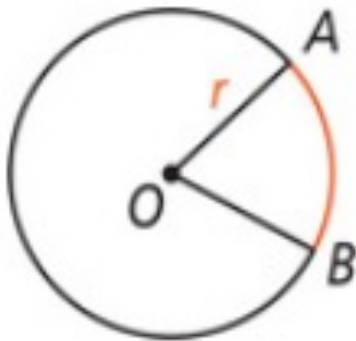
$$r = 3.18 \text{ ft}$$

U5L6 – Circumference and Arc Length

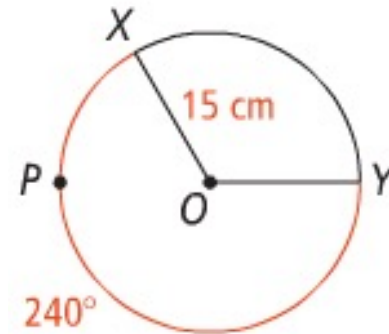


Arc Length

$$\begin{aligned}\text{length of } \widehat{AB} &= \frac{m\widehat{AB}}{360} \cdot 2\pi r \\ &= \frac{m\widehat{AB}}{360} \cdot \pi d\end{aligned}$$



What is the length of \widehat{XPY} ?



$$\widehat{XPY} = \frac{240}{360} \cdot 2\pi(15\text{cm})$$

$$\widehat{XPY} = \frac{2}{3} \cdot 30\pi\text{cm}$$

$$\widehat{XPY} = 0.66 \cdot 30\pi\text{cm}$$

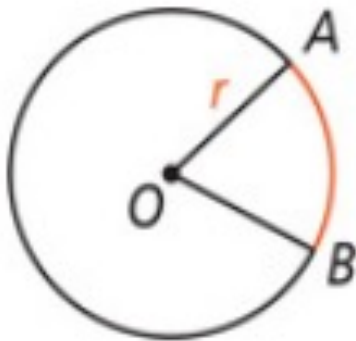
$$\widehat{XPY} = 62.17 \text{ cm}$$

U5L6 – Circumference and Arc Length

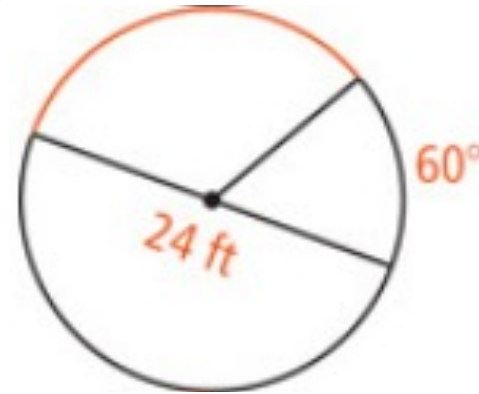


Arc Length

$$\begin{aligned}\text{length of } \widehat{AB} &= \frac{m\widehat{AB}}{360} \cdot 2\pi r \\ &= \frac{m\widehat{AB}}{360} \cdot \pi d\end{aligned}$$



What is the length of the arc in orange?



$$\text{arc} = \frac{120}{360} \cdot \pi \cdot 24 \text{ ft}$$

$$\text{arc} = \frac{1}{3} \cdot 24\pi \text{ ft}$$

$$\text{arc} = 8\pi \text{ ft}$$

Questions?



- Check the Message Board first
- Send a WebMail
- You can also make an appointment at <https://elizondo.youcanbook.me>
- You can also call me at (559) 549-3244. If I'm not available to answer your call, please leave a voicemail with your full name and phone number.