

Week April 7-11

GEOMETRY Lesson Plan Overview

Monday: REVIEW for QUIZ tomorrow

- Review assorted problems from NOTE/PRACTICE packet
- Bigideasmath.com online assignment labeled ANGLE CIRCLE

Tuesday: Quiz - paper/pencil

- Pd 1 & 4 May use notes on test, resource room/teacher in use, formula sheet
- Pd 2 - use adjusted formula sheet and different test

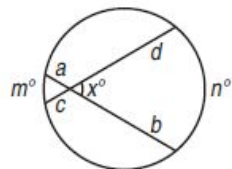
Wednesday: Notes on Section 10.6 with objective on segment lengths with circles

- Use Dynamic Classroom Section Examples to view videos and record on paper for notes
- See next slide for example view
 - Setup only on some students in example 3:
 - CP students - add quadratic formula to their formula sheet to use

Thursday: Soft Practice Book pg 171 - complete for section 10.6 examples

Friday: Extra Practice Sheets:--- Kuta Software sample and see GC links for each class period

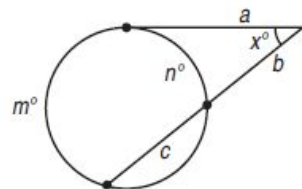
Use Keystone Geometry Formula Sheet



2 Chords

$$a \cdot b = c \cdot d$$

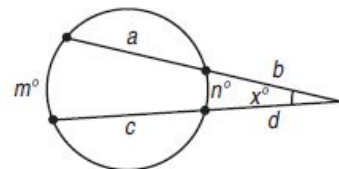
$$x = \frac{1}{2}(m + n)$$



Tangent-Secant

$$a^2 = b(b + c)$$

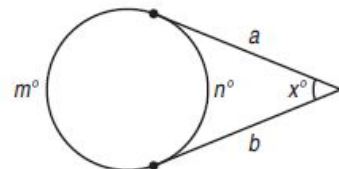
$$x = \frac{1}{2}(m - n)$$



2 Secants

$$b(a + b) = d(c + d)$$

$$x = \frac{1}{2}(m - n)$$



2 Tangents

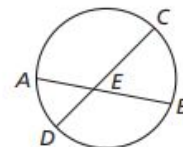
$$a = b$$

$$x = \frac{1}{2}(m - n)$$

THEOREM

10.18 Segments of Chords Theorem

If two chords intersect in the interior of a circle, then the product of the lengths of the segments of one chord is equal to the product of the lengths of the segments of the other chord.



Prove this Theorem Exercise 20, page 554

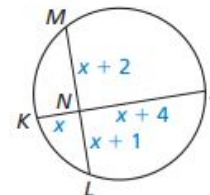
$$EA \cdot EB = EC \cdot ED$$

EXAMPLE 1

Using Segments of Chords



Find ML and JK .



SOLUTION

Use the Segments of Chords Theorem to find the value of x .

$$NK \cdot NJ = NL \cdot NM$$

Segments of Chords Theorem

$$x \cdot (x + 4) = (x + 1) \cdot (x + 2)$$

Substitute.

$$x^2 + 4x = x^2 + 3x + 2$$

Simplify.

$$4x = 3x + 2$$

Subtract x^2 from each side.

$$x = 2$$

Subtract $3x$ from each side.

Find ML and JK by substitution.

$$ML = (x + 2) + (x + 1)$$

$$JK = x + (x + 4)$$

$$= 2 + 2 + 2 + 1$$

$$= 2 + 2 + 4$$

$$= 7$$

$$= 8$$

BigIdeasMath.com Textbook sections

Section 10.6: Segment Relationships in Circles

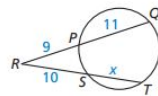
Common Core State Standards: G.C.A.2

Learning Target: Use theorems about segments of chords, secants, and tangents.

Success Criteria

- Find lengths of segments of chords.
- Identify segments of secants and tangents.
- Find lengths of segments of secants and tangents.

Vocabulary: segments of a chord, tangent segment, secant segment, external segment



EXAMPLE 2 Using Segments of Secants



Find the value of x .

SOLUTION

$$RP \cdot RQ = RS \cdot RT$$

$$9 \cdot (11 + 9) = 10 \cdot (x + 10)$$

$$180 = 10x + 100$$

$$80 = 10x$$

$$8 = x$$

▶ The value of x is 8.

Segments of Secants Theorem

Substitute.

Simplify.

Subtract 100 from each side.

Divide each side by 10.

Dynamic Classroom Section 10.6 with

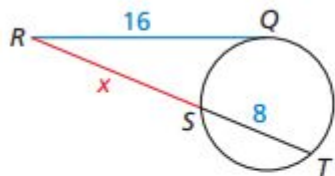
- pds 1&4 on emerging
- Pd 2 CP on proficient to advanced

Assignment Guide

Level	Exercises
Emerging	1, 2, 3, 5, 7, 9, 11, 13, 15, 18
Proficient	1, 2, 4, 6, 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23
Advanced	2, 4, 6, 8, 10, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24

CP students only:

This requires an Algebra 2 review of solving quadratic equations



EXAMPLE 3

Using Segments of Secants and Tangents



Find RS .

SOLUTION

$$RQ^2 = RS \cdot RT$$

$$16^2 = x \cdot (x + 8)$$

$$256 = x^2 + 8x$$

$$0 = x^2 + 8x - 256$$

$$x = \frac{-8 \pm \sqrt{8^2 - 4(1)(-256)}}{2(1)}$$

$$x = -4 \pm 4\sqrt{17}$$

Segments of Secants and Tangents Theorem

Substitute.

Simplify.

Write in standard form.

Use Quadratic Formula.

Simplify.