Geometry Regents Lomac 2015-2016 **Date** 5/13 **due** 5/16 | **Circles: Chords and Segment Lengths** **10.6R**

Name _____ **Per**_____

LO: I can solve problems involving segments of intersecting chords

☐ **DO NOW** On the back of this packet

☐ (1) **Circles and arc measure** **https://schoolyourself.org/learn/geometry/chord-product**

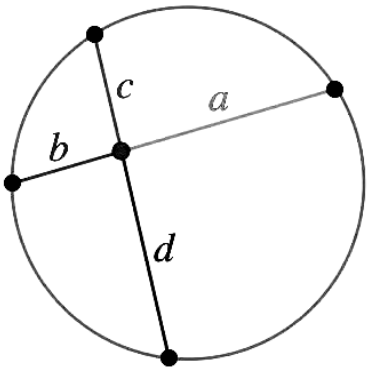
Use the website link for 10.6 (see above or use the QR code at right) to investigate the relationship between segments formed by intersecting chords.

☐ (a) Connect 2 points that are not connected to make a chord.

☐ (b) Highlight the triangle that you formed

☐ (c) An angle in the triangle you highlighted is vertical to another angle in the diagram. Mark those angles congruent.

☐ (d) Connect 2 of the labeled points on the diagram to form a triangle that includes the vertical angle you just marked.



☐ (e) Highlight the triangle that you formed

☐ (f) So far, you have marked _____ pair(s) of congruent angles. Find another pair of congruent angles in the triangles so that you can prove that the triangles are similar by AA~. (Think "inscribed angles . . . ")

☐ (g) △_____ ~ △_____ by _____.

☐ (h) Since you know that the triangles are similar, write a proportion with the original 4 segments that were in the diagram. This is how you can find the lengths of segments of chords.

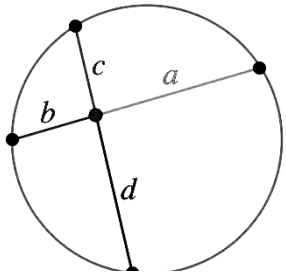
$$\frac{\square}{\square} = \frac{\square}{\square}$$

☐ Write a sentence that describes how to use similar triangles to find the measures of segments of intersecting chords.

_____

_____

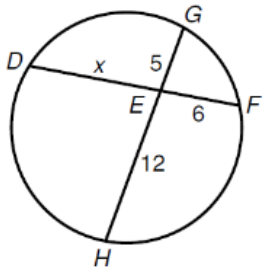
SHORTCUT:



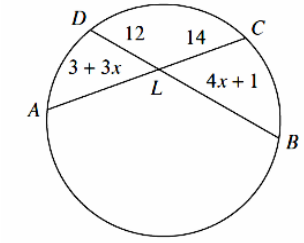
_____ = _____

☐ (2) Find the value of the variable or indicated arc or angle measure.

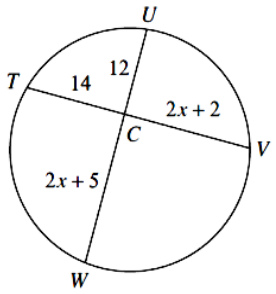
(a) Find the measure of x



(b) Find CA



(c) Find UW



☐ (3) calculator **Exit Ticket**

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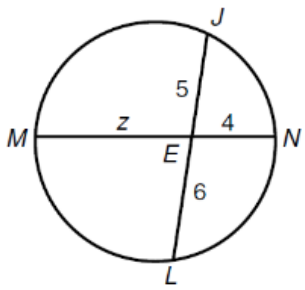
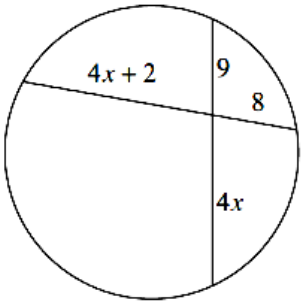
☐ (4) calculator **Homework**

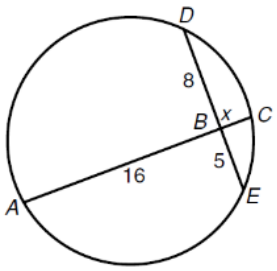
(1) Find the measure of *z*.



(2) Find the measure of *x*



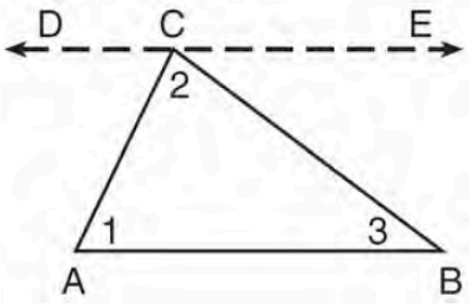
(3) Find the measure of segment AC



☐ (4) calculator **Homework**

(3) Review:

Given the theorem, "The sum of the measures of the interior angles of a triangle is 180°," complete the proof for this theorem.



Given: $\triangle ABC$
Prove: $m\angle 1 + m\angle 2 + m\angle 3 = 180°$
Fill in the missing reasons below.

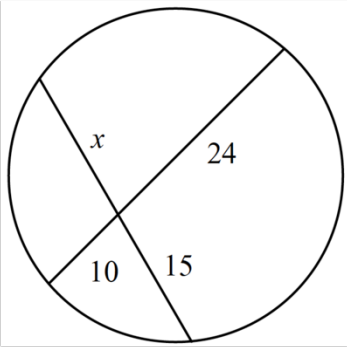
Statements	Reasons
(1) $\triangle ABC$	(1) Given
(2) Through point C, draw $\overleftrightarrow{DCE}$ parallel to $\overline{AB}$.	(2) _____
(3) $m\angle 1 = m\angle ACD$, $m\angle 3 = m\angle BCE$	(3) _____
(4) $m\angle ACD + m\angle 2 + m\angle BCE = 180°$	(4) _____
(5) $m\angle 1 + m\angle 2 + m\angle 3 = 180°$	(5) _____

Exit Ticket Name_____ Date _____ Per_____ 10.6R

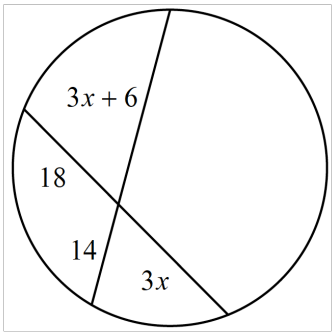
The LO (Learning Outcomes) are written below your name on the front of this packet. Demonstrate your achievement of these outcomes by doing the following:

(1) Find the indicated measure for each diagram. Show sufficient evidence of your solution

(a) x = _____



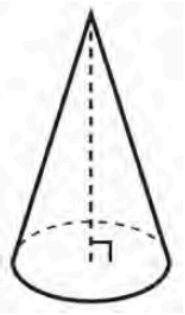
(b) Find the lengths of the unknown segments



DO NOW **Name**_____ **Date** _____ **Per**_____ **10.6R**

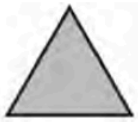
(1) 17 The aspect ratio (the ratio of screen width to height) of a rectangular flat-screen television is 16:9. The length of the diagonal of the screen is the television's screen size. Determine and state, to the *nearest inch*, the screen size (diagonal) of this flat-screen television with a screen height of 20.6 inches.

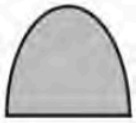
(2) 56 William is drawing pictures of cross sections of the right circular cone below.



Which drawing can *not* be a cross section of a cone?

1 

2 

3 

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