

October 29, 2018, Monday

20. Find angles 1 and 2.

360
 -105
 -135
 -70
 $\hline 55$

$41 = 55$, $42 = 37.5$
 $\angle 2 = \frac{1}{2}(130 - 55)$

If $m\angle ABC = 63^\circ$, find all three arc measures.

21. $\widehat{AB} = 180$, 22. $\widehat{BC} = 54$, 23. $\widehat{AC} = 126$

360
 -54
 -180

180
 -63
 $\hline 27$

diameter/line = 180°

$1+2+3 = 180^\circ$

Oct 26-8:13 AM

Discuss - draw

What are the 5 circle - angle arc formulas you know?

- 1
- 2
- 3
- 4
- 5

Oct 26-8:41 AM

What is a chord? A line that touches the circumference of a circle two times

Draw a circle with two intersecting chords

CHORDS: AD, BC

What is a secant segment? A line that passes through the circumference of a circle two times.

Draw a circle with 2 secant segments which intersect outside the circle.

SECANTS: FG, EH

What is a tangent segment? A line that touches the circumference of a circle ONE TIME.

Draw a circle with a secant segment and a tangent segment which intersect outside the circle.

SECANT: JK
TANGENT: LM

Oct 26-2:56 PM

Geometry - Circles & chords, secants, tangents

Chord-Chord Product Theorem

If two chords intersect inside a circle, then the products of the lengths of the segments of the chords are equal.

$AE \cdot EB = CE \cdot ED$

Secant-Secant Product Theorem

If two secants intersect in the exterior of a circle, then the product of the lengths of one secant segment and its external segment equals the product of the lengths of the other secant segment and its external segment.

$AE \cdot BE = CE \cdot DE$

Secant-Tangent Product Theorem

If a secant and a tangent intersect in the exterior of a circle, then the product of the lengths of the secant segment and its external segment equals the length of the tangent segment squared.

$AC \cdot BC = DC^2$

Oct 26-8:38 AM

Geometry ID: 1

Circles, Chords & Tangents

Solve for x. Assume the tangent.

- 1) $x \cdot 14 = 18 \cdot 21$
 $14x = 378$
 $x = 27$
- 2) $9 \cdot x = 6 \cdot 6$
 $9x = 36$
 $x = 4$
- 3) $(x+9) \cdot 9 = (17+10) \cdot 9$
 $9x + 81 = 270$
 $9x = 189$
 $x = 21$
- 4) $(x+8) \cdot 8 = (7+9) \cdot 9$
 $8x + 64 = 144$
 $8x = 80$
 $x = 10$
- 5) $x \cdot 15 = 10 \cdot 10$
 $15x = 100$
 $x = 6.67$
- 6) $x \cdot 10 = 15 \cdot 15$
 $10x = 225$
 $x = 22.5$
- 7) $x \cdot 10 = 15 \cdot 15$
 $10x = 225$
 $x = 22.5$
- 8) $x \cdot 10 = 15 \cdot 15$
 $10x = 225$
 $x = 22.5$
- 9) $x \cdot 15 = 10 \cdot 10$
 $15x = 100$
 $x = 6.67$
- 10) $x \cdot 10 = 15 \cdot 15$
 $10x = 225$
 $x = 22.5$
- 11) $x \cdot 15 = 10 \cdot 10$
 $15x = 100$
 $x = 6.67$
- 12) $x \cdot 10 = 15 \cdot 15$
 $10x = 225$
 $x = 22.5$
- 13) $x \cdot 15 = 10 \cdot 10$
 $15x = 100$
 $x = 6.67$
- 14) $x \cdot 10 = 15 \cdot 15$
 $10x = 225$
 $x = 22.5$

Oct 26-8:38 AM

9) $(x+9) \cdot 9 = 15^2$
 $9x + 81 = 225$
 $-81 -81$
 $9x = 144$
 $x = 16$

10) $(x+15) \cdot 18 = 30^2$
 $18x + 324 = 900$
 $-324 -324$
 $18x = 576$
 $\frac{18x}{18} = \frac{576}{18} \quad x = 32$

$AC \cdot BC = DC^2$

Oct 29-1:38 PM

Geometry _____ Name _____ ID: 1
 Circles, Chords & Secants _____ Date _____ Period _____

Solve for x . Assume that lines which appear tangent are tangent.

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Oct 26-11:09 AM

On a new sheet of paper (you can 1/2 with someone).

Write 3 circle problems, using your new chord, tangent, secant rules.

Turn these in!!

Oct 29-1:43 PM

October 30, 2018, Tuesday

From you notes - write one of the 'new' circle rules we covered yesterday (circles with chords, secants, and tangents).

Oct 26-8:23 AM

Geometry _____ Name _____ ID: 1
 Find the correct Circle Chord & Secant Rule _____ Date _____ Period _____

Solve for x . Assume that lines which appear tangent are tangent.

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Oct 26-11:07 AM

Geometry _____ Name _____ ID: 1
 Find the correct Circle Chord & Secant Rule _____ Date _____ Period _____

Solve for x . Assume that lines which appear tangent are tangent.

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Oct 26-11:08 AM

<https://www.mathwarehouse.com/geometry/circle/tangent-secant-side-length.php>

Math Warehouse

Math Gifts Algebra Geometry Trigonometry Calculus Teacher Tools

Side Length of Tangent & Secant of a Circle
 Tangents, secants, Side Lengths Theorems & Formula

Review the three rules, then try each problem BEFORE you look at the answer!

Oct 26-11:10 AM

October 31, 2018, Wednesday

Solve for x. Assume that lines which appear tangent are tangent.

1) $(x+4) \cdot 4 = 6^2$
 $4x + 16 = 36$
 $4x = 20$
 $x = 5$

2) $9 \cdot x = 10 \cdot 18$
 $9x = 180$
 $x = 20$

3) $(x+11) \cdot 6 = (11+7) \cdot 7$

You have 3 chord, secant, tangent rules relating to a circle... how will you remember these for the EOC?

Oct 26-8:23 AM

What is circumference? **The length around the circle.**

Draw a pic of circumference.

Find C if $r = 2$. $C = 2\pi r$

What is 1/2 of the circumference? 1/4? 3/4?

How many degrees are 1/2, 1/4, 3/4, & 1 around a circle?

Look at p730 (copy) what is m??

Oct 26-2:57 PM

Arc Length

The arc length s of an arc with measure m° and radius r is given by the formula $s = \frac{m}{360} \cdot 2\pi r$.

Find Circumference

$C = 2\pi r$
 $C = 2\pi \cdot 2$
 $C = 12.6$

Find the arc length

$S = \frac{m}{360} \cdot 2\pi r$
 $S = \frac{45}{360} \cdot 2\pi \cdot 2$
 $S = 1.57$

Oct 26-2:54 PM

Geometry Name: _____ ID: 1

Circle circumference to arc length

Find the diameter of each circle. Round your answer to the nearest tenth.

1) $2(3) = 6$

Find the radius of each circle. Round your answer to the nearest tenth.

2) $\frac{24}{2} = 12$

Find the circumference of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

3) $C = 2\pi r$
 $C = 18.8$

4) $C = 2\pi r$
 $C = 38.3$

Oct 26-11:15 AM

Find the length of each arc. Round your answers to the nearest tenth. Remember arc length is a "piece" of the circumference.

5) $S = \frac{110}{360} \cdot 2\pi \cdot 12$
 $S = 22.8$

6) $S = \frac{110}{360} \cdot 2\pi \cdot 11$
 $S = 20.8$

7) $S = \frac{110}{360} \cdot 2\pi \cdot 17$
 $S = 32.8$

8) $S = \frac{110}{360} \cdot 2\pi \cdot 17$
 $S = 32.8$

9) $S = \frac{110}{360} \cdot 2\pi \cdot 17$
 $S = 32.8$

10) $S = \frac{110}{360} \cdot 2\pi \cdot 7$
 $S = 13.2$

11) $S = \frac{110}{360} \cdot 2\pi \cdot 7$
 $S = 13.2$

12) $S = \frac{110}{360} \cdot 2\pi \cdot 7$
 $S = 13.2$

Oct 26-11:16 AM

Geometry Name: _____ ID: 1

Circle circumference to arc length

Find the diameter of each circle. Round your answer to the nearest tenth.

1) $d = 12$

Find the radius of each circle. Round your answer to the nearest tenth.

2) $r = 12$

Find the circumference of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

3) $C = 2\pi r$
 $C = 38.3$

4) $C = 2\pi r$
 $C = 38.3$

Oct 26-11:16 AM

Find the length of each arc. Round your answers to the nearest tenth. Remember arc length is a 'piece' of the circumference.

5) 31.4 ft

6) 46.1 km

7) 5.5 km

8) 62.3 cm

9) 93.5 km

10) 7.3 m

11) 34.8 cm

12) 5.2 cm

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Oct 26-11:16 AM

November 1 2018, Thursday

Find the circumference of each circle. Round your answer to the nearest tenth.

1) mth.

Find the length of each arc. Round your answers to the nearest tenth.

2) 7 ft

3) 14 cm

4) 12 ft

Oct 26-8:23 AM

Geometry Name: _____ ID: 1

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Circumference of a circle...what is 'part' of a circumference called?

Find the circumference of each circle. $C = 2\pi r$. Round your answer to the nearest tenth.

1) 12 cm

2) 10 cm

3) 2.3 km

4) 8.4 m

5) 10.3 cm

6) 9 m

7) 16 ft

8) 12 km

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Oct 26-11:22 AM

Geometry Name: _____ ID: 1

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Circumference of a circle...what is 'part' of a circumference called?

Find the circumference of each circle. $C = 2\pi r$. Round your answer to the nearest tenth.

1) 75.4 mi

2) 25.1 cm

3) 14.5 km

4) 59.1 m

5) 66.5 cm

6) 56.5 m

7) 50.3 m

8) 37.7 km

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Oct 26-11:23 AM

What is area?

What if I want a piece of area?

Look at p 738 (copy). What is m?

Oct 30-1:40 PM



Area of a Sector



The area A of a sector with a central angle of m° of a circle with radius r is given by



$$A = \frac{m}{360} \pi r^2$$



Oct 26-2:55 PM



Geometry Name _____ ID: 1
 The sector...a piece of a circle Date _____ Period _____
 Find the area of each sector. Round your answers to the nearest tenth.

1)  2) 

3)  4) 

5)  6) 



7)  8) 



9)  10) 



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Oct 26-11:27 AM



Geometry Name _____ ID: 1
 The sector...a piece of a circle Date _____ Period _____
 Find the area of each sector. Round your answers to the nearest tenth.

1)  2) 

3)  4) 

5)  6) 



7)  8) 



9)  10) 

Answers: 1) 265.1 m², 2) 44.2 m², 3) 117.8 cm², 4) 282.7 cm², 5) 150.8 cm², 6) 221.7 yd², 7) 205.3 yd², 8) 14.1 cm², 9) 28.3 ft², 10) 196.3 m²


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Oct 26-11:27 AM

Study Guide
 Unit 4, Lesson 2 - Segments, Sectors, Arc Length, Radians Name _____
 Find the length of each missing sector, arc, or chord.
 1) Find the length of \widehat{AC} .  2) Find the length of the missing segment. 

3) Find the length of the missing segment.  4) What is the length of each tangent? 

Missing segment length = _____ $\widehat{AB} = \widehat{BC} = \widehat{AC} = \widehat{AC}$



5) Solve for x. 


X = _____

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
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Oct 31-8:02 AM

1) Find the arc length of \widehat{ABC} .  2) Find the sector area of \widehat{ABC} . 

3) Check if O is split into two equal arc lengths. The diameter equals 5 meters. What is the length of arc \widehat{ABC} ? 

Length of $\widehat{ABC} = \widehat{ABC}$

4) Find the value of x. 

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Oct 31-8:03 AM

November 2, 2018, Friday

quiz

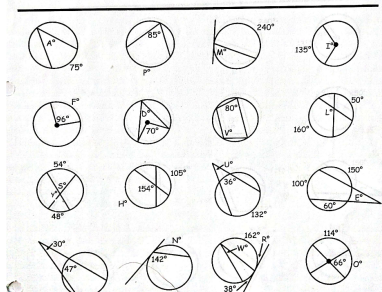
Oct 26-8:23 AM

CGPS Geometry 4a - Circles and Volumes 4.3 - Practice
 Name: _____ Date: _____
What did the Mama Lion say when she saw her cub chasing a hunter around a tree?
 To find out, figure out the degree measure of each lettered angle and arc in the circles below. Then place the corresponding letter above each number.

203 66 19 60 37.5 76 129 107 135 60 25 51 203 37.5 100 25

135 107 66 105 35 129 66 48 76 66 107 107 66

170 105 37.5 129 19 135 107 203 129 66 48 81 96 66 66 35



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Oct 26-12:23 PM