

October 29, 2018, Monday

20. Find angles 1 and 2.

$360 - 105 - 130 = 78$
 $\angle 1 = 55^\circ, \angle 2 = 37.5$

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

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

$180 - 63 - 90 = 27$
 diameter/line

$\angle = \frac{1}{2} (\text{larger arc} - \text{smaller arc})$
 $\angle 2 = \frac{1}{2} (130 - 55)$

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.

What is a secant segment? A line that passes through the circle circumference 2 times.

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

What is a tangent segment? A line that touches a circle at only one point.

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

CHORDS AD, BC
 SECANTS: FE, GH
 SECANT IS JK
 TANGENT IS 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 Circles, Chords & Secants

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

1) $x = 14$
 $15x = 336$
 $x = 27$

2) $9x = 66$
 $9x = 36$

3) $(x+9)8 = (7+9)8$
 $8x + 72 = 144$
 $8x = 72$
 $x = 9$

4) $(6+9)9 = 45^2$
 $9x + 81 = 2025$
 $9x = 1944$
 $x = 216$

5) $(x+13)18 = (30)^2$
 $18x + 324 = 900$
 $18x = 576$
 $x = 32$

Oct 26-8:38 AM

9) $15 \cdot 9 = x \cdot x$

10) $4 \cdot 6 = x \cdot x$

11) $30 \cdot 9 = x \cdot x$

12) $24 \cdot 18 = x \cdot x$

Oct 30-10:28 AM

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

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

1) 27 2) 12
 3) 4 4) 15
 5) 21 6) 6
 7) 10 8) 6
 9) 16 10) 5
 11) 32 12) 14

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Oct 26-11:09 AM

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.

1) 2) 4
 3) 24 4) 14
 5) 12 6) 18
 7) 10 8) 18
 9) 10 10) 17

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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.

1) 2) 4
 3) 16 4) 2
 5) 14 6) 24
 7) 10 8) 32
 9) 6 10) 12
 11) 11 12) 21

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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) $(x+4)4 = 6^2$
 $4x+16 = 36$
 $-16 = -16$
 $4x = 20$
 $x = 5$

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

3) $(x+6)6 = (11+7)7$
 $6x+36 = 126$
 $-36 = -36$
 $6x = 90$
 $x = 15$

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 distance around a circle** 360°

Draw a pic of circumference.

Find C if $r = 2$. $C = 2\pi r$ **radius (Not the diameter)**

What is $1/2$ of the circumference? $1/4$? $3/4$?
 Whole $C = 360$ $\frac{1}{2}(360) = 180$ $\frac{1}{4}(360) = 90$ $\frac{3}{4}(360) = 270$

How many degrees are $1/2$, $1/4$, $3/4$, & 1 around a circle?
 Semi Circle \rightarrow

Look at p730 (copy) what is m ??

$r = \frac{d}{2}$
 $2r = d$

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 $s = \frac{m}{360} \cdot 2\pi r$.

Ex Find C:
 $C = 2\pi r$
 $C = 2\pi(2)$
 $C = 12.56$
 $S = \frac{m}{360} \cdot 2\pi r$
 $S = \frac{90}{360} \cdot 2\pi(2)$
 $S = 3.14$

m = The measure of the arc in degree
 $C = 2\pi r$
 $S = \frac{m}{360} \cdot 2\pi r$
 "piece" of the circumference

Oct 26-2:54 PM

Geometry Name: _____ ID: 1
 Circle circumference to arc length Date: _____ Period: _____

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

1) $3 + 3 = 6$ $2r = d$ $r = \frac{1}{2}d$

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

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

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

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

4) $r = 6.1$
 $C = 2\pi(6.1)$
 $C = 38.3$

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) $S = \frac{m}{360} \cdot 2\pi r$
 $S = \frac{120}{360} \cdot 2\pi(11)$
 $S = 31.4$

6) $S = 31.4$

7) $S = 31.4$

8) $S = 31.4$

9) $S = 31.4$

10) $S = 31.4$

11) $S = 31.4$

12) $S = 31.4$

Oct 26-11:16 AM

Geometry Name: _____ ID: 1
 Circle circumference to arc length Date: _____ Period: _____

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

1) 6 km

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

2) 12 yd

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

3) 18.8 km

4) 38.3 m

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 km

6) 46.1 km

7) 5.5 km

8) 62.3 cm

9) 92.5 km

10) 7.3 m

11) 34.9 km

12) 5.2 cm

Oct 26-11:16 AM

November 1 2018, Thursday

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

1) $C = 2\pi r$

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

2) $C = \frac{240}{360} \cdot 2\pi \cdot 7$
 $S = 29.3$

3) $S = \frac{60}{360} \cdot 2\pi \cdot 14$
 $S = 14.7$

4) $S = \frac{90}{360} \cdot 2\pi \cdot 12$

Oct 26-8:23 AM

2) $\overline{AB} = 180$, $\overline{BC} = 54$, $\overline{AC} = 126$

15) $\overline{BC} = 152$

Nov 1-10:38 AM

What is area? The amount of space

What if I want a piece of area?

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

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

~~$? = 2\pi r^2$~~

Oct 30-1:44 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 $A = \frac{m}{360} \pi r^2$

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

$A = \pi 2^2$ $A = \frac{37}{360} \pi 2^2$

$A = 12.6$ $A = 1.3$

Nov 1-10:47 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) $A = \frac{135}{360} \pi 15^2$
 $A = 205.6$

2) $A = 205.6$

3) $A = 205.6$

4) $A = 205.6$

5) $A = 205.6$

6) $A = 205.6$

7) $A = 205.6$

8) $A = 205.6$

9) $A = 205.6$

10) $A = 205.6$

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) $A = 265.1 \text{ m}^2$

2) $A = 44.2 \text{ m}^2$

3) $A = 117.8 \text{ m}^2$

4) $A = 262.7 \text{ cm}^2$

5) $A = 150.8 \text{ m}^2$

6) $A = 221.7 \text{ yd}^2$

7) $A = 205.5 \text{ yd}^2$

8) $A = 14.1 \text{ cm}^2$

9) $A = 28.3 \text{ ft}^2$

10) $A = 196.3 \text{ m}^2$

Oct 26-11:27 AM

Unit 4.56 2 - Segments, Sectors, Arc Length, Radians Name _____

Find the length of each missing arc, sector or chord.

1) Find the length of \widehat{AB} . $x = 12$

2) Find the length of the missing segment. $\widehat{AB} = 17$

3) Find the length of the missing segment. $x = 12$

4) What is the length of each tangent? $\widehat{AB} = 38, \widehat{CB} = 38$

5) Solve for x . $(3x/2) = 3(18)$
 $6x = 54$
 $x = 9$

CGE GEOMETRY 1 | P.5.4
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Oct 31-8:05 AM

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

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

3) Circle O is split into six equal arc-lengths. The diameter equals 5 meters. What is the length of arc \widehat{AED} ? Length of $\widehat{AED} =$ _____

4) Find the value of x .

CGE GEOMETRY 2 | P.5.4
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Nov 1-12:00 PM

6) 30.6 $S = \frac{m}{360} 2\pi r$
 $S = \frac{195}{360} 2\pi 9 = 30.6$

7) 55.6

8) 10.5 $\text{dia} = 5, r = 2.5, \frac{360}{6} = 60$
 $S = \frac{m}{360} 2\pi r$
 $S = \frac{120}{360} 2\pi 2.5$
 $S = 10.5$

9) 4.3

Nov 1-11:38 AM

November 2, 2018, Friday

What are two formulas you will probably use on the quiz today?
 Write the formula and an example of a problem the formula will work for.

Quiz

Oct 26-8:23 AM

CGPS Geometry 4.0 - 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

Diagrams with angles and arcs labeled with letters A through T.

Oct 26-12:23 PM