

October 23, 2018, Tuesday
 Draw a circle and a secant line.
 Draw a circle and a tangent line.

Oct 17-2:06 PM

Geometry Name: _____ ID: 1
 Central Angles
 Name the arc made by the given angle.
 1) $\angle AOC$ → Major arc \widehat{AC}
 2) Major arc for $\angle QGH$ → \widehat{GH}
 Name the central angle of the given arc.
 3) \widehat{AC} → $\angle AOC$ or $\angle COA$
 4) \widehat{GH} → $\angle G$
 Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.
 5) $\angle P = 160^\circ$
 6) $\angle P = 90^\circ$
 7) $m\angle SRT = 70^\circ$ (diameter line)
 8) $m\angle FHE = 65^\circ$

Oct 23-7:56 AM

Review!

$A + C = 180$
 $B + D = 180$

Oct 23-11:01 AM

Geometry Name: _____ ID: 1
 Central Angles
 Name the arc made by the given angle.
 1) $\angle MQE$
 2) Major arc for $\angle QGH$
 Name the central angle of the given arc.
 3) \widehat{AC}
 4) \widehat{GH}
 Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.
 5) 160°
 6) 90°
 7) $m\angle SRT = 70^\circ$
 8) $m\angle FHE = 65^\circ$

Oct 23-7:56 AM

Copy p 670 - inscribed Quadrilateral Theorem

Supplementary = 180°

What does this theorem mean related to this picture?

$A + C = 180$
 $B + D = 180$

Oct 23-7:57 AM

Geometry Name: _____ ID: 1
 Inscribed in a Circle
 Find the measure of the arc or angle indicated.
 1) Inscribed \angle
 2) Inscribed \angle
 3) Inscribed \angle
 4) Inscribed \angle
 5) Inscribed \angle
 6) Inscribed \angle

Oct 23-8:00 AM

7) 180°
 $\frac{180^\circ}{2} = 92^\circ$
 $? = \frac{92^\circ}{2} = 46^\circ$

9) 180°
 $\frac{180^\circ}{2} = 95^\circ$
 $? = \frac{95^\circ}{2} = 47.5^\circ$

11) 120°
 50°
 $? = 60^\circ$

13) Find $m\widehat{EG}$
 80°
 10°
 $? = 40^\circ$

14) Find $m\widehat{EZ}$
 $4x+10$
 $9x-1$
 $? = 10^\circ$

Oct 23-8:00 AM

Geometry Name _____ ID: 1
 Inscribed in a Circle Date _____ Period _____

1) 194°

2) 172°

3) 118°

4) 180°
 112°
 $180^\circ - 112^\circ = 68^\circ$
 $\frac{68^\circ}{2} = 34^\circ$

5) 32°

6) 77°
 $180^\circ - 77^\circ = 103^\circ$
 $\frac{103^\circ}{2} = 51.5^\circ$

Oct 23-8:01 AM

7) 46°

9) 47.5°

11) 60°

13) 40°

14) 10°

Oct 23-8:01 AM

October 24, 2018, Wednesday

Find the measure of the arc or angle indicated.

1) 107°
 $107^\circ + ? = 180^\circ$
 $107^\circ - 107^\circ = 73^\circ$
 $\frac{144^\circ + 70^\circ}{2} = 107^\circ$

2) 90°
 $180^\circ - 90^\circ = 90^\circ$
 $\frac{90^\circ}{2} = 45^\circ$

3) 150°
 135°
 $? = 150^\circ$

4) $m\angle TOR$
 $360^\circ - 155^\circ - 76^\circ = 129^\circ$

Review Inscribed $2x$

Inscribed \triangle
 $A+C=180^\circ$
 $B+D=180^\circ$

Oct 24-7:44 AM

The Tangent-Secant Exterior Angle Measure Theorem
 If a tangent and a secant, two tangents, or two secants intersect in the exterior of a circle, then the measure of the angle formed is half the difference of the measures of its intercepted arcs.

$m\angle 1 = \frac{1}{2}(m\widehat{AD} - m\widehat{BC})$ $m\angle 2 = \frac{1}{2}(m\widehat{EHG} - m\widehat{EG})$ $m\angle 3 = \frac{1}{2}(m\widehat{KN} - m\widehat{KM})$

Angle Relationships in Circles

Vertex of the Angle	Measure of Angle	Diagrams
On a circle	Half the measure of its intercepted arc	120° 200° $m\angle 1 = 60^\circ$ $m\angle 2 = 100^\circ$
Inside a circle	Half the sum of the measures of its intercepted arcs	44° 36° $m\angle 1 = \frac{1}{2}(44^\circ + 36^\circ) = 65^\circ$
Outside a circle	Half the difference of the measures of its intercepted arcs	78° 202° $m\angle 1 = \frac{1}{2}(202^\circ - 78^\circ) = 62^\circ$ 45° 125° $m\angle 2 = \frac{1}{2}(125^\circ - 45^\circ) = 40^\circ$

Oct 23-11:55 AM

The Tangent-Secant Exterior Angle Measure Theorem
 If a tangent and a secant, two tangents, or two secants intersect in the exterior of a circle, then the measure of the angle formed is half the difference of the measures of its intercepted arcs.

Angle Relationships in Circles

Vertex of the Angle	Measure of Angle	Diagrams
On a circle	Half the measure of its intercepted arc	120° 200° $m\angle 1 = 60^\circ$ $m\angle 2 = 100^\circ$
Inside a circle	Half the sum of the measures of its intercepted arcs	44° 36° $m\angle 1 = \frac{1}{2}(44^\circ + 36^\circ) = 65^\circ$
Outside a circle	Half the difference of the measures of its intercepted arcs	78° 202° $m\angle 1 = \frac{1}{2}(202^\circ - 78^\circ) = 62^\circ$ 45° 125° $m\angle 2 = \frac{1}{2}(125^\circ - 45^\circ) = 40^\circ$

So, what do you notice???

If the \angle 's outside of the \odot - large arc - small arc

If the \angle 's inside of the \odot +

Oct 24-10:50 AM

Geometry Name: _____ ID: 1
Circles, Secant & Tangents Date: _____ Period: _____
Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

1)
$$\begin{array}{r} 360 \\ - 100 \\ \hline 260 \\ \hline \end{array}$$

$$\begin{array}{r} 260 \\ - 235 \\ \hline 25 \\ \hline \end{array}$$

$$? = \frac{1}{2}(260 - 100)$$

$$? = \frac{1}{2}(160)$$

$$? = 80$$

 2)
$$\begin{array}{r} 360 \\ - 235 \\ \hline 125 \\ \hline \end{array}$$

$$? = \frac{1}{2}(125 - 110) = 55$$

 3) Inscribed \angle

$$\frac{92}{2} = 46$$

 4)
$$? = \frac{1}{2}(119 - 87)$$

$$? = \frac{1}{2}(32)$$

$$? = 16$$

 5)
$$? = \frac{1}{2}(190 - 50)$$

$$? = \frac{1}{2}(140)$$

$$? = 70$$

 6)
$$? = \frac{1}{2}(195 - 111)$$

$$? = \frac{1}{2}(84)$$

$$? = 42$$

Oct 23-11:56 AM

7)
$$? = \frac{1}{2}(\text{arc} + \text{arc})$$

$$? = \frac{1}{2}(160 + 62)$$

$$? = \frac{1}{2}(222) = 111$$

 8)
$$? = \frac{1}{2}(155 + 65)$$

$$? = \frac{1}{2}(220) = 110$$

 9)
$$? = \frac{1}{2}(119 - 87)$$

$$? = \frac{1}{2}(32) = 16$$

 10)
$$? = \frac{1}{2}(155 - 115)$$

$$? = \frac{1}{2}(40) = 20$$

 11)
$$? = \frac{1}{2}(179 - 87)$$

$$? = \frac{1}{2}(92) = 46$$

 12)
$$? = \frac{1}{2}(195 - 111)$$

$$? = \frac{1}{2}(84) = 42$$

Oct 23-11:56 AM

Geometry Name: _____ ID: 1
Circles, Secant & Tangents Date: _____ Period: _____
Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

1) 80°
 2) 55°
 3) 46°
 4) 20°
 5) 70°
 6) 42°

Oct 23-11:57 AM

7) 111°

$$? = \frac{1}{2}(\text{arc} + \text{arc})$$

$$? = \frac{1}{2}(160 + 62)$$

$$? = \frac{1}{2}(222) = 111$$

 8) 110°

$$? = \frac{1}{2}(155 + 65)$$

$$? = \frac{1}{2}(220) = 110$$

 9) 16°

$$? = \frac{1}{2}(119 - 87)$$

$$? = \frac{1}{2}(32) = 16$$

 10) 20°

$$? = \frac{1}{2}(155 - 115)$$

$$? = \frac{1}{2}(40) = 20$$

 11) 46°

$$? = \frac{1}{2}(179 - 87)$$

$$? = \frac{1}{2}(92) = 46$$

 12) 42°

$$? = \frac{1}{2}(195 - 111)$$

$$? = \frac{1}{2}(84) = 42$$

Oct 23-11:57 AM

October 25, Thursday

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

1) $m\widehat{KJ}$ $360^\circ - 65^\circ = 295^\circ$
 2) $m\angle CAD$ diameter/line 180°

$$\frac{180}{2} = 92$$

$$180 - 92 = 88$$

 Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.
 3)
$$\angle = \frac{1}{2}(\text{large arc} - \text{small arc})$$

$$? = \frac{1}{2}(159 - 79)$$

$$? = 40$$

 4)
$$\angle = \frac{1}{2}(\text{arc} + \text{arc})$$

$$? = \frac{1}{2}(200 + 50)$$

$$? = 125$$

 5) Inscribed!

$$\frac{1}{2}(180) = 90$$

Oct 17-3:23 PM

Unit 4 Study guide for Quiz 1 - are you ready for secants and tangents?

Unit 4 $\frac{50}{100}$ - Angles & Arcs Name: _____

Using the diagram, match the exterior with the term that best describes it. (Use 1 times!)

- Center
- Chord
- Secant
- Radius
- Point of tangency
- Secant
- Tangent

6. $AB = 130$
 7. $CD = 80$
 8. $EF = 120$
 9. $GH = 150$
 10. $HI = 180$
 11. $JK = 200$
 12. $LM = 250$
 13. $NO = 300$
 14. $OP = 350$

Find the measure of the indicated arc(s) or angle(s).

15. 140

$$x = \frac{1}{2}(75 + 105)$$

$$x = \frac{1}{2}(180)$$

$$x = 90$$

 16. 90

$$x = \frac{1}{2}(90 + 90)$$

$$x = \frac{1}{2}(180)$$

$$x = 90$$

 17. 140

$$\angle 1 = \frac{1}{2}(100 - 60)$$

$$\angle 1 = \frac{1}{2}(40)$$

$$\angle 1 = 20$$

Oct 17-3:25 PM

18. What is the value of x ? **50**

19. Find angle x . **110**

$y + 10z = 180$
 $x + 7z = 180$
 $-7z = -10z - 10z$
 $x = 110$

20. Find angles 1 and 2.

21. $AB = 80$, $BC = 54$, $AC = 72$

24. Determine if \overline{AB} is tangent to radius \overline{BC} .

$a^2 + b^2 = c^2$
 $5^2 + 12^2 = 13^2$
 $25 + 144 = 169$
 $169 = 169$

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Oct 25-10:07 AM

October 26, 2018, Friday

Choose 2!

Solve for x .

$\angle = \frac{1}{2}(178 - 52)$
 $x = \frac{1}{2}(178 - 102)$
 $x = \frac{1}{2}(76)$
 $x = 38$

Solve for x .

$x = \frac{1}{2}(148) = 74$

What is arc AB & arc ACB ?

$AB = 82$
 $ACB = 360 - 82 = 278$

If arc $AB = 40$ & arc $CD = 20$, find $\angle 1$ & $\angle 2$.

$\angle = \frac{1}{2}(arc + arc)$
 $\angle = \frac{1}{2}(40 + 20)$
 $\angle = \frac{1}{2}(60) = 30$

Read, then

Quiz

Oct 24-12:28 PM

Geometry Name: _____ ID: 1

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.

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Oct 17-3:26 PM

What is an arc length & how it arc length related to circumference of a circle?

Oct 17-3:27 PM

Geometry Name: _____ ID: 1

Circle circumference to arc length

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

-

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

-

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

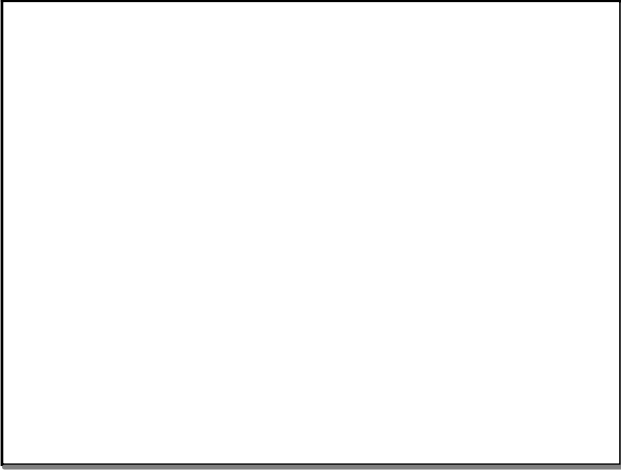
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Oct 17-3:29 PM

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

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Oct 26-11:12 AM