



Geometry \_\_\_\_\_ Name \_\_\_\_\_ ID: 1  
 Circles & Tangents \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_  
**Inscribed in a Circle**  
 Find the measure of the arc or angle indicated.

1) 194°

2) 172°

3) 118°

4) 112°

5) 32°

6) 77°

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Oct 23-8:01 AM

7) 46°

8) 42°

9) 85°

10) 74°

Solve for x.

11) 12

12) 8

Find the measure of the arc or angle indicated.

13) Find  $m\widehat{CD}$ . 160°

14) Find  $m\widehat{CD}$ . 62°

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Oct 23-8:01 AM

Oct 24, 2018, Wednesday

Find the measure of the arc or angle indicated.

1) 54°

2) 90°

Oct 23-11:58 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 resulting angle formed is half the difference of the measures of the intercepted arcs.

Vertex of the Angle	Measure of Angle	Diagrams
On a circle	Half the measure of the intercepted arc	$m\angle 1 = 120^\circ$ $m\angle 2 = 30^\circ$
Inside a circle	Half the sum of the measures of its intercepted arcs	$m\angle 1 = 80^\circ$ $m\angle 2 = \frac{1}{2}(40^\circ + 120^\circ) = 65^\circ$
Outside a circle	Half the difference of the measures of its intercepted arcs	$m\angle 1 = 70^\circ$ $m\angle 2 = \frac{1}{2}(120^\circ - 20^\circ) = 62^\circ$ $m\angle 3 = 40^\circ$ $m\angle 4 = \frac{1}{2}(120^\circ - 40^\circ) = 62^\circ$

Oct 23-11:58 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) 108°

2) 131°

3) 52°

4) 41°

5) 103°

6) 111°

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Oct 23-11:58 AM

7) 42°

8) 46°

9) 156°

10) 90°

11) 41°

12) 37°

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Oct 23-11:58 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) 274°

5) 70°

6) 42°

Oct 23-11:58 AM

7) 111°

8) 110°

9) 79°

10) 120°

11) 146°

12) 115°

Oct 23-12:00 PM

Use a laptop to find the following:

- Intersecting Chords Angle Measure Theorem
- Tangent-Secant Interior Angle Measure Theorem
- Tangent-Secant Exterior Angle Measure Theorem (there should be three)
- Angle Relationships in Circles (there should be three)

If no tech, use pages 700-702

Oct 23-8:02 AM

p 700

**The Intersecting Chords Angle Measure Theorem**

If two secants or chords intersect in the interior of a circle, then the measure of each angle formed is half the sum of the measures of its intercepted arcs.

Chords  $\overline{AD}$  and  $\overline{BC}$  intersect at  $E$ .

$$m\angle 1 = \frac{1}{2}(m\widehat{AB} + m\widehat{CD})$$

p 701

**The Tangent-Secant Interior Angle Measure Theorem**

If a tangent and a secant (or a chord) intersect on a circle at the point of tangency, then the measure of the angle formed is half the measure of its intercepted arc.

Tangent  $\overline{BC}$  and secant  $\overline{BA}$  intersect at  $B$ .

$$m\angle ABC = \frac{1}{2} m\widehat{AB}$$

Oct 17-2:08 PM

p 702

**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.

$$m\angle 1 = \frac{1}{2}(m\widehat{AD} - m\widehat{BD})$$

$$m\angle 2 = \frac{1}{2}(m\widehat{EHG} - m\widehat{EG})$$

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

Oct 17-2:09 PM

p 704

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°      86° $m\angle 1 = \frac{1}{2}(44^\circ + 86^\circ) = 65^\circ$
Outside a circle	Half the difference of the measures of its intercepted arcs	78°      202° $m\angle 1 = \frac{1}{2}(202^\circ - 78^\circ)$ 45°      125° $m\angle 2 = \frac{1}{2}(125^\circ - 45^\circ)$

Oct 17-2:09 PM

Let's practice our new secant and tangent relationships with circles after a foldable.

Oct 17-2:10 PM

October 23, 2018, Tuesday

Oct 17-3:23 PM

Let's practice our new secant and tangent relationships - Kuta

Oct 17-3:25 PM

October 24, 2018 Wednesday

Oct 17-3:25 PM

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



Oct 17-3:25 PM



October 25, 2018, Thursday



Quiz



Oct 17-3:26 PM

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)  2) 

3)  4) 

5)  6) 

7)  8) 

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
Oct 17-3:26 PM

October 26, 2018, Friday


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

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Geometry \_\_\_\_\_ Name \_\_\_\_\_ ID: 1  
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**Circle circumference to arc length** Date \_\_\_\_\_ Period \_\_\_\_\_  
**Find the diameter of each circle. Round your answer to the nearest tenth.**

1) 

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

2) 



**Find the circumference of each circle. Use your calculator's value of  $\pi$ . Round your answer to the nearest tenth.**



3)  4) 



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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.**

5)  6) 

7)  8) 

9)  10) 

11)  12) 

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