

October 15, 2018 Monday

1 What does SOHCAHTOA help you remember...write the equations out in their entirety.  
 $\sin \theta = \frac{o}{h}$   $\cos \theta = \frac{a}{h}$   $\tan \theta = \frac{o}{a}$

2 If the distance from the tree to the student is 10 feet, and the tree is 12 foot high, what is the student's angle of elevation?

$\tan \theta = \frac{12}{10}$   
 $\tan^{-1} \left( \frac{12}{10} \right)$   
 $X = 50.2^\circ$

3 A lost ranger is seen by his partner in a lookout tower, if the partner's angle of depression is 50 degrees, how far is the ranger from the lookout tower?

$\tan \theta = \frac{o}{a}$   
 $45 \tan 50 = \frac{x}{45}$   
 $53.6 = x$   
 $54 = x$

Oct 11-2:32 PM

Unit 3 Test Study Guide

1.  $BC = 12$   
 $\sin C = \frac{12}{13}$   
 $\sin^{-1} \left( \frac{12}{13} \right) = 67.3^\circ$

2.  $\tan C = \frac{12}{5}$   
 $\tan^{-1} \left( \frac{12}{5} \right) = 67.3^\circ$

3.  $\sin A = \frac{12}{13}$   
 $\sin^{-1} \left( \frac{12}{13} \right) = 67.3^\circ$

4.  $\cos A = \frac{5}{13}$   
 $\cos^{-1} \left( \frac{5}{13} \right) = 67.3^\circ$

5.  $\tan A = \frac{12}{5}$   
 $\tan^{-1} \left( \frac{12}{5} \right) = 67.3^\circ$

6.  $a^2 + b^2 = c^2$   
 $3^2 + 4^2 = 5^2$   
 $9 + 16 = 25$   
 $25 = 25$

7.  $a^2 + b^2 = c^2$   
 $4^2 + 3^2 = 5^2$   
 $16 + 9 = 25$   
 $25 = 25$

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

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

10.  $\sin \theta = \frac{o}{h}$   
 $\sin \theta = \frac{12}{13}$   
 $\sin^{-1} \left( \frac{12}{13} \right) = 67.3^\circ$

11.  $\cos \theta = \frac{a}{h}$   
 $\cos \theta = \frac{5}{13}$   
 $\cos^{-1} \left( \frac{5}{13} \right) = 67.3^\circ$

12.  $\tan \theta = \frac{o}{a}$   
 $\tan \theta = \frac{12}{5}$   
 $\tan^{-1} \left( \frac{12}{5} \right) = 67.3^\circ$

12. A forest ranger is on a fire lookout tower in a national forest. His observation post is 214 ft above the ground. He spots a fire. The angle of depression from his line of sight to the fire is  $12^\circ$ . How far away is the fire from the lookout tower in terms of line of sight?

$\cos \theta = \frac{a}{h}$   
 $\cos 12 = \frac{214}{h}$   
 $h \cos 12 = 214$   
 $\frac{h \cos 12}{\cos 12} = \frac{214}{\cos 12}$   
 $h = 218.8$

13. Find angles X and Z.

$\cos \theta = \frac{a}{h}$   
 $\cos X = \frac{21}{35}$   
 $X = 53.1^\circ$

$\sin \theta = \frac{o}{h}$   
 $\sin Z = \frac{21}{35}$   
 $Z = 36.9^\circ$

16. Find ST.

$\cos \theta = \frac{a}{h}$   
 $\cos 20 = \frac{x}{20}$   
 $5.6 = x$

$\cos \theta = \frac{a}{h}$   
 $\cos 70 = \frac{y}{20}$   
 $\frac{y \cos 70}{\cos 70} = \frac{5.6}{\cos 70}$   
 $y = 16.4$

October 16, 2018, Tuesday

Find the length of the side labeled x. Round intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round your final answer to the nearest tenth.

1)  $\sin \theta = \frac{o}{h}$   
 $\sin 40 = \frac{x}{15}$   
 $x = 9.6$

2)  $\cos \theta = \frac{a}{h}$   
 $\cos 43 = \frac{32}{x}$   
 $x = 38.4$

3)  $\tan \theta = \frac{o}{a}$   
 $\tan 43 = \frac{12}{x}$   
 $x = 12.5$

Find the measure of the indicated angle to the nearest degree.

1)  $\sin \theta = \frac{o}{h}$   
 $\sin \theta = \frac{15}{32}$   
 $\theta = 27.7^\circ$

2)  $\cos \theta = \frac{a}{h}$   
 $\cos \theta = \frac{15}{60}$   
 $\theta = 75.5^\circ$

3)  $\tan \theta = \frac{o}{a}$   
 $\tan \theta = \frac{12}{12.5}$   
 $\theta = 43.6^\circ$

Test!

Oct 11-2:32 PM

October 17, 2018, Wednesday

Parts of a Circle

$\text{tangent } \theta = \frac{o}{a}$

Choose from the following to complete the labeled diagram:

~~ARC~~ Radius Tangent  
~~Diameter~~ Sector Segment  
~~Chord~~ Circumference

Oct 11-3:55 PM

★ 1st student Read column 1  
 ★ 2nd student: Repeat back what they heard

★ 2nd student Read column 2 & 3  
 ★ 1st student: Repeat back what they heard

1st & 2nd Review page 5  
 Construct 1 graph & answer the 4 questions

Do not write in the books.

Oct 17-10:21 AM

P 659-662 define circle vocabulary words (= 8) with picture

Copy:  
 arc addition post p 661  
 inscribed angle theorem p 662  
 inscribed angle of a diameter theorem p 664

Oct 11-2:32 PM

October 18, 2018 Thursday

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

1)  $A = \pi r^2$   
 $A = 3.14(6)^2$   
 $113.1 \text{ km}^2$

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

2)  $C = 2\pi r$   
 $C = 2\pi(5)$   
 $C = 31.4$

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

3)  $2r = d$   
 $2(6) = d$   
 $12 = d$

Oct 17-12:31 PM

Name to parts of the circle:  
 BD = Secant line  
 BT = Tangent line  
 HF, AF, FH = Diameter  
 DG = GD = Chord

Oct 17-12:55 PM

October 19, 2018, Friday

- How many degrees are in a right angle?  $90^\circ$
- How many degrees are in a straight line?  $180^\circ$
- How many degrees are in a circle?  $360^\circ$

Oct 11-3:26 PM

p664-665

**Evaluate: Homework and Practice**

Identify the chord(s), inscribed angle(s), and central angle(s) in the figure. The center of the circles in Exercises 1, 2, and 4 is C.

- 1) CHORDS: DE, EF  
 INSCRIBED  $\angle$ :  $\angle DEF$   
 CENTRAL  $\angle$ :  $\angle DCF$
- 2) CHORDS: ST, RS, SU, RT  
 INSCRIBED  $\angle$ :  $\angle RST, \angle UST, \angle RTS$   
 CENTRAL  $\angle$ :  $\angle RCS, \angle TCS, \angle RCU$
- 3) CHORDS: DG, GE, DE, GE  
 INSCRIBED  $\angle$ :  $\angle DGE, \angle GDE, \angle GED$   
 CENTRAL  $\angle$ : NONE!
- 4) CHORDS: DG, GE, DE, GE  
 INSCRIBED  $\angle$ :  $\angle DGE, \angle GDE, \angle GED$   
 CENTRAL  $\angle$ : NONE!

Oct 11-2:55 PM

**arc**

In circle C,  $m\widehat{DE} = 84^\circ$ . Find each measure.

- $m\angle DGE = 42^\circ$
- $m\angle EFD = 42^\circ$

The center of the circle is A. Find each measure using the appropriate theorems and postulates.

- $m\widehat{CE} = 51^\circ + 90^\circ = 141^\circ$
- $m\widehat{DF} = 90^\circ + 39^\circ = 129^\circ$
- $m\angle BEC = 360^\circ - 39^\circ - 39^\circ - 90^\circ - 51^\circ - 90^\circ = 321^\circ$

Oct 11-2:56 PM

The center of the circle is C. Find each measure using the appropriate theorems and postulates.  $m\angle M = 70^\circ$  and  $m\angle N = 60^\circ$ .

12.  $m\angle MNP$   $\frac{180}{2} = 90^\circ$

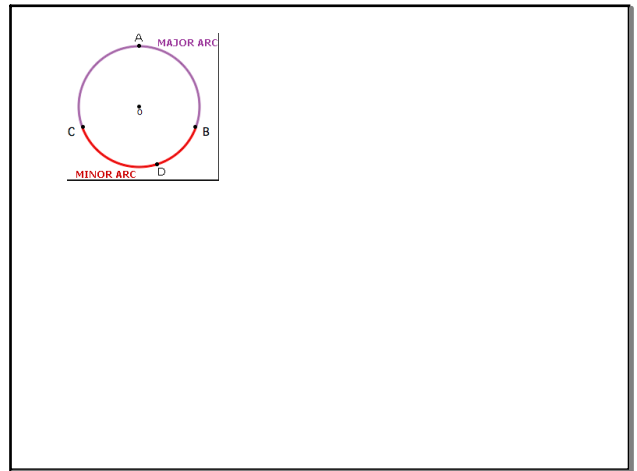
13.  $m\angle LMN$   $\frac{170}{2} = 85^\circ$

The center of the circle is O. Find each arc or angle measure using the appropriate theorems and postulates.

14.  $m\angle BDE$       15.  $m\widehat{ABD}$

16.  $m\widehat{ED}$       17.  $m\angle DBE$

Oct 11-2:56 PM



Oct 18-10:36 AM

Geometry Name: \_\_\_\_\_ ID: 1  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Central Angles

Name the arc made by the given angle.

1)  $\angle MQE$       2) Major arc for  $\angle GQH$

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)  $m\angle SRT$       6)  $m\angle FHE$

Oct 11-3:03 PM

Geometry Name: \_\_\_\_\_ ID: 1  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Central Angles

Name the arc made by the given angle.

1)  $\angle MQE$       2) Major arc for  $\angle GQH$

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)  $m\angle SRT$       6)  $m\angle FHE$

7)  $m\angle SRT$       8)  $m\angle FHE$

Oct 11-3:03 PM

October 18, 2018, Thursday

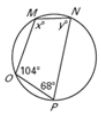
Oct 11-3:04 PM

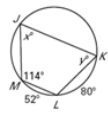
Copy p 670 - inscribed Quadrilateral Theorem

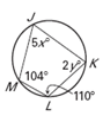
What does this theorem mean related to this picture?

Oct 11-3:05 PM

**Practice: Quadrilaterals Inscribed in a Circle:**  
**Ex5:** Find the value of each variable.

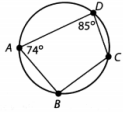
1. 

2. 

3. 

Oct 11-3:14 PM

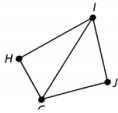
Use the figure for Exercises 5–6. Find each measure using the appropriate theorems and postulates.



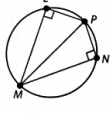
5.  $m\angle B$

6.  $m\widehat{DAB}$

7.  $GHIJ$  is a quadrilateral. If  $m\angle HIJ + m\angle HGJ = 180^\circ$  and  $m\angle H + m\angle J = 180^\circ$ , could the points  $G, H, I,$  and  $J$  points of a circle? Explain.

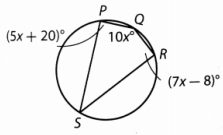


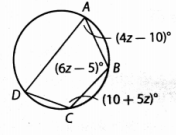
8.  $LMNP$  is a quadrilateral inscribed in a circle. If  $m\angle L = m\angle N$ , is  $\overline{MP}$  a diameter of the circle? Explain.



Oct 11-3:16 PM

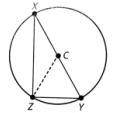
**Multi-Step** Find the angle measures of each inscribed quadrilateral.

10. 

11. 

Oct 11-3:17 PM

18. In the diagram,  $C$  is the center of the circle and  $\angle XYZ$  is inscribed in the circle. Classify each statement as true, false, or cannot be determined.



- $\overline{CX} \cong \overline{CY}$
- $\overline{CZ} \cong \overline{XY}$
- $\triangle CXZ$  is isosceles.
- $\triangle CYZ$  is equilateral.
- $\overline{XY}$  is a diameter of circle  $C$ .

Oct 11-3:17 PM


Inscribed Angles - tech search for a pic and definition!


How are inscribed angles different from inscribed quadrilaterals?


Oct 11-3:17 PM


Geometry \_\_\_\_\_ Name \_\_\_\_\_ ID: 1  
 Inscribed in a Circle \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_


Find the measure of the arc or angle indicated.


1) 

2) 

3) 

4) 

5) 

6) 

© 2010 Holt Rinehart and Winston. All rights reserved. Holt Rinehart and Winston.

Oct 11-3:23 PM

7) 8) 9) 10) 11) 12) 13) Find  $m\widehat{EG}$ . 14) Find  $m\widehat{EZ}$ . © 2018 Holt Rinehart and Son. All rights reserved. Made with Infinite Geometry.

Oct 11-3:24 PM

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

1) 2) 3) 4) 5) 6) © 2018 Holt Rinehart and Son. All rights reserved. Made with Infinite Geometry.

Oct 11-3:24 PM

7) 8) 9) 10) 11) 12) 13) Find  $m\widehat{EG}$ . 14) Find  $m\widehat{EZ}$ . © 2018 Holt Rinehart and Son. All rights reserved. Made with Infinite Geometry.

Oct 11-3:24 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 11-3:27 PM

What is a secant line?

What is a tangent line?

Oct 11-3:33 PM

**The Inscribed-Angle Theorem (Angle Measure)**  
 If a tangent and a secant, two secants, 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 the intercepted arcs.

**Angle Relationships in Circles**

Vertex of the Angle	Measure of Angle	Diagrams
On a circle	Half the measure of its intercepted arc.	$m\angle 1 = 60^\circ$ $m\angle 2 = 50^\circ$
Inside a circle	Half the sum of the measures of its intercepted arcs.	$m\angle 1 = \frac{1}{2}(40^\circ + 140^\circ) = 90^\circ$
Outside a circle	Half the difference of the measures of its intercepted arcs.	$m\angle 1 = \frac{1}{2}(200^\circ - 80^\circ) = 70^\circ$ $m\angle 2 = \frac{1}{2}(120^\circ - 40^\circ) = 40^\circ$

Oct 11-3:37 PM

Find each measure.

3.  $m\angle QPR$

4.  $m\angle ABC$

5.  $m\angle MKJ$

6.  $m\angle NPK$

Oct 11-3:38 PM

Find the value of  $x$ .

11.

12.

13.

Oct 11-3:38 PM

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

1)  $108^\circ$

2)  $121^\circ$

3)  $82^\circ$

4)  $43^\circ$

5)  $90^\circ$

6)  $111^\circ$   
 $108^\circ$

Oct 11-3:42 PM

7)  $42^\circ$   
 $100^\circ$

8)  $68^\circ$   
 $155^\circ$

9)  $158^\circ$

10)  $97^\circ$

11)  $41^\circ$   
 $44^\circ$   
 $100^\circ$

12)  $57^\circ$   
 $155^\circ$   
 $155^\circ$

Oct 11-3:52 PM

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

1)  $108^\circ$   
 $40^\circ$

2)  $121^\circ$   
 $55^\circ$

3)  $82^\circ$   
 $46^\circ$

4)  $43^\circ$   
 $274^\circ$

5)  $90^\circ$   
 $70^\circ$

6)  $111^\circ$   
 $108^\circ$   
 $42^\circ$

Oct 11-3:52 PM

7)  $42^\circ$   
 $100^\circ$   
 $111^\circ$

8)  $68^\circ$   
 $155^\circ$   
 $110^\circ$

9)  $158^\circ$   
 $79^\circ$

10)  $97^\circ$   
 $120^\circ$

11)  $41^\circ$   
 $44^\circ$   
 $100^\circ$   
 $146^\circ$

12)  $57^\circ$   
 $155^\circ$   
 $155^\circ$   
 $41^\circ$

Oct 11-3:53 PM