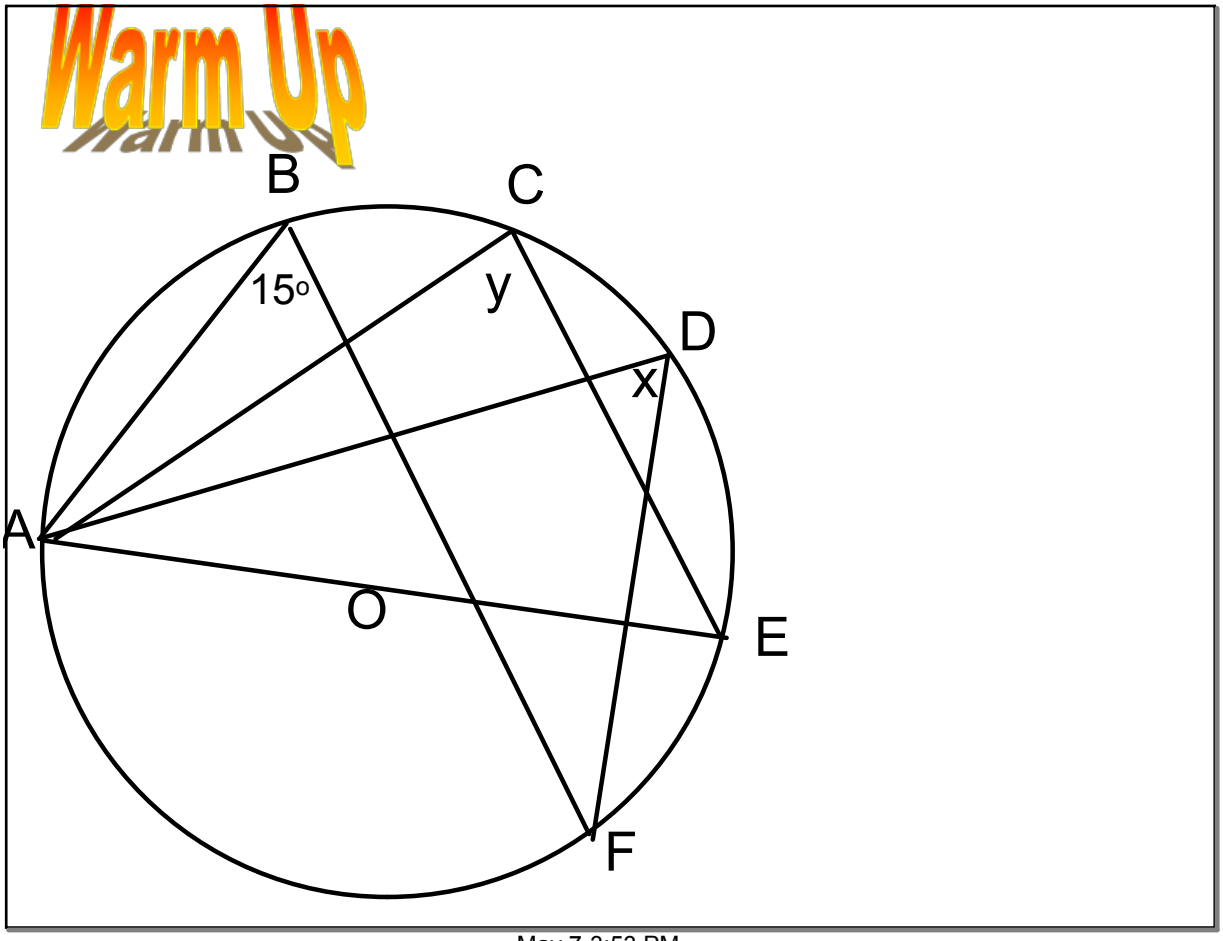
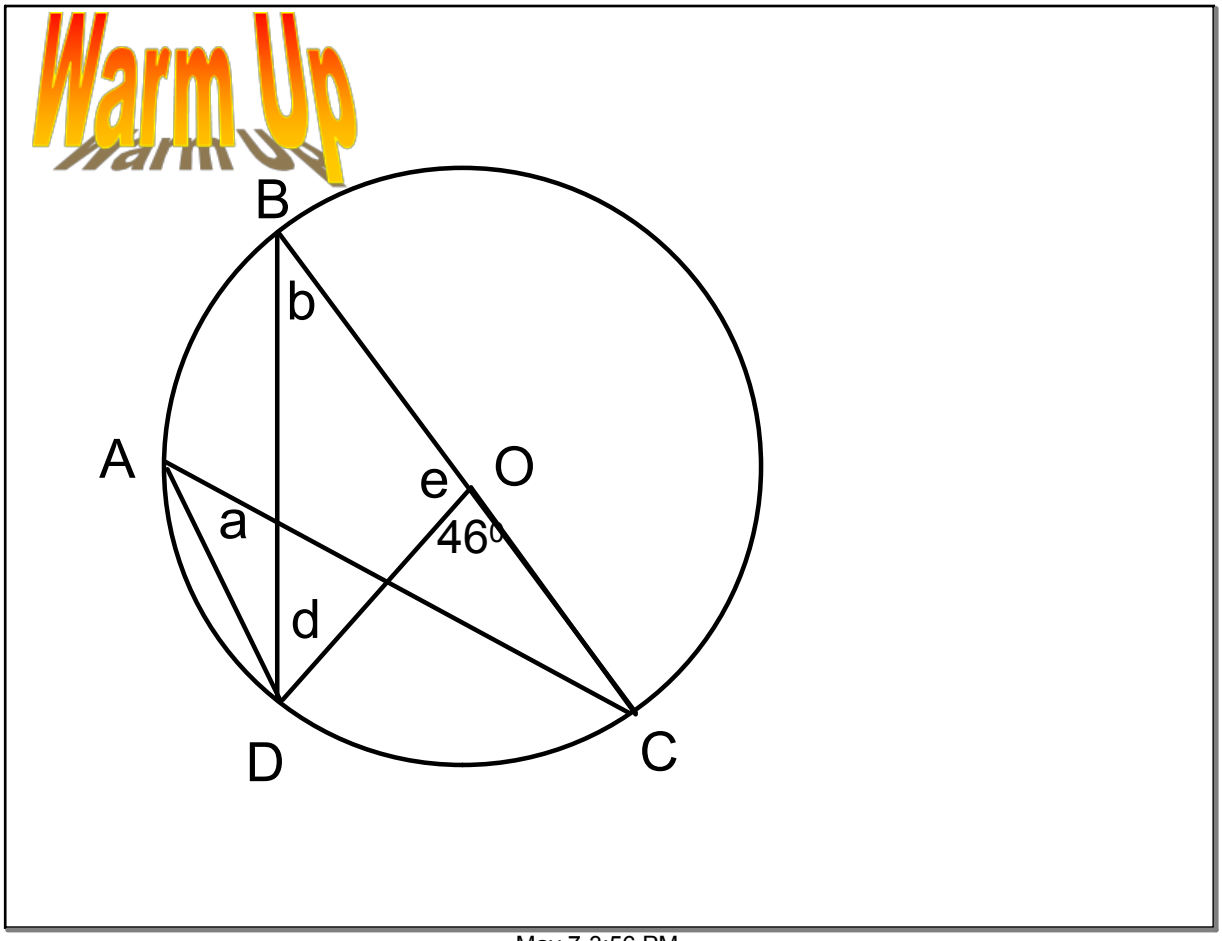
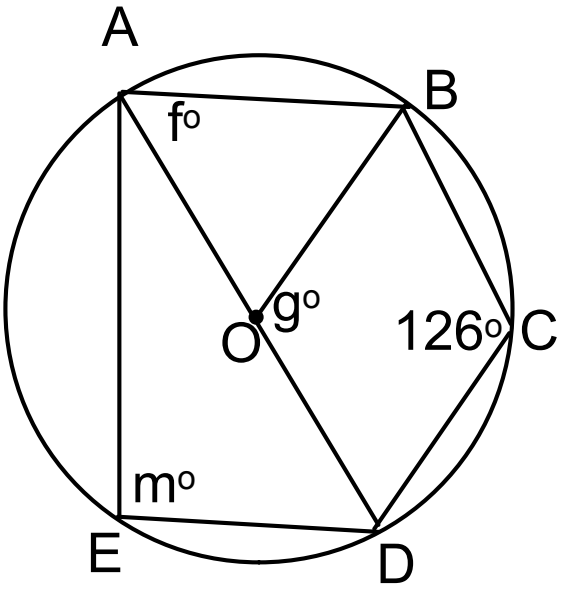


May 7-3:53 PM



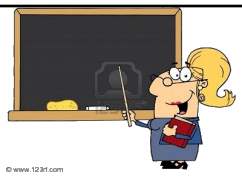
May 7-3:56 PM

Warm Up

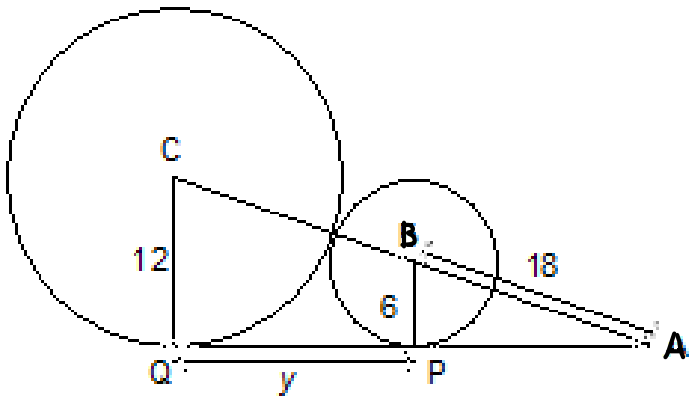


May 9-7:53 AM

Warm Up



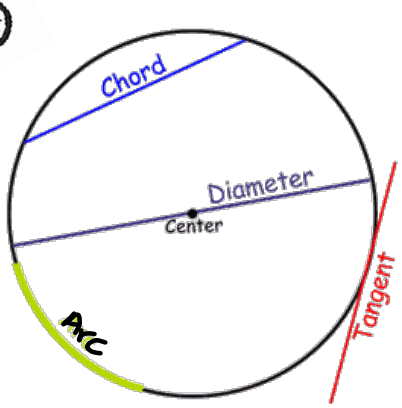
AQ is a tangent to the circle with centre B and to the circle with centre C.
The points of tangency are P and Q.
Determine the value of y to the nearest tenth.

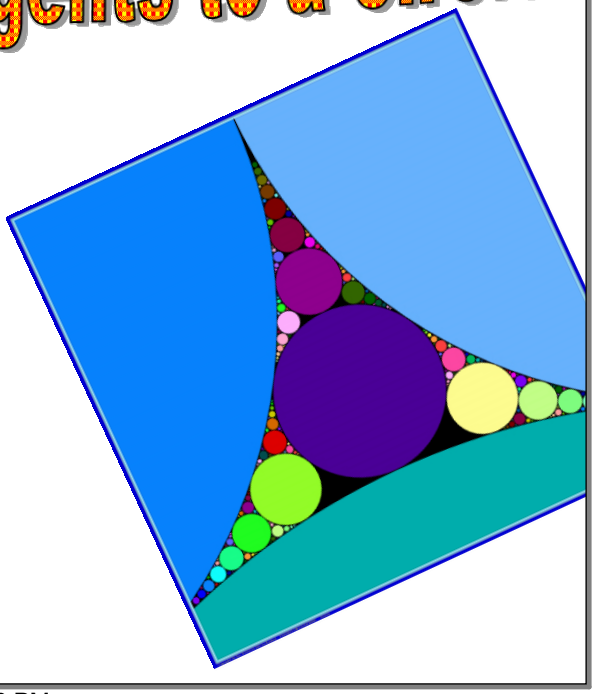


May 8-9:55 PM

Section 8.1

Properties of Tangents to a Circle



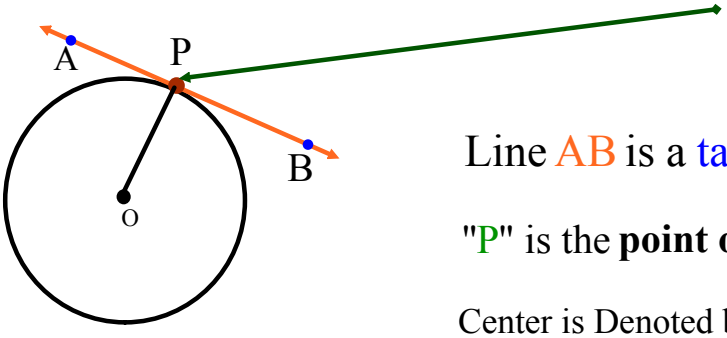


Apr 25-9:16 PM

Tangent Properties

- **tangent -** a line that touches a circle/curve at only 1 point.
  - the point of contact is called the **point of tangency.**

ex:



Line AB is a tangent

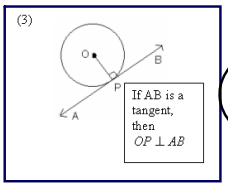
"P" is the **point of tangency**

Center is Denoted by "O"

Apr 25-8:54 PM

Tangent Property:

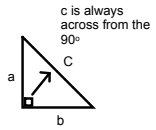
A tangent to a circle is perpendicular to the radius at the point pf tangency. <APO = <BPO = 90



"Join O to B and you have formed a right triangle. Thus, you can use the Pythagorean Theoremto find side lengths." (OR Angle sum of triangle to find missing angles)

Looking for HYPOTENUSE

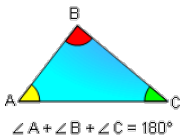
$c^2 = a^2 + b^2$



Looking for missing LEG

$a^2 = c^2 - b^2$

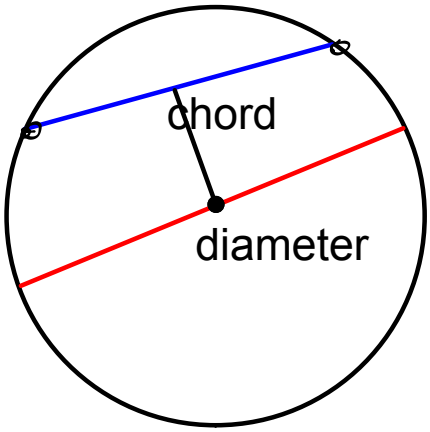
Given Angles use ANGLE SUM of TRIANGLE



Apr 25-9:07 PM

- A line segment that joins two points on a circle is a **chord**.

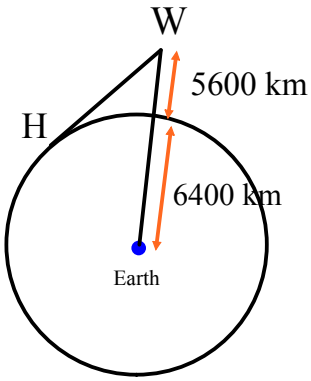
- A **diameter** of a circle is a chord through the centre of the circle.



May 16-3:10 PM

Solving Problems Using the Tangent and Radius Property

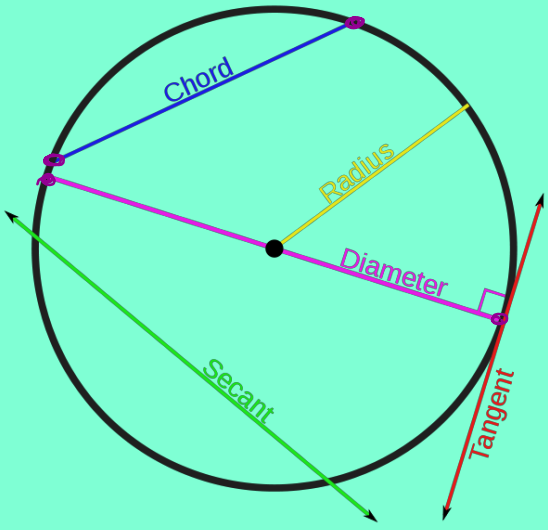
An airplane, W, is cruising at an altitude of 5600m. A cross section of Earth is a circle with radius approximately 6400 km. A passenger wonders how far she is from a point H on the horizon she sees outsied the window. Calculate this distance to the nearest kilometre.



Apr 25-10:16 PM

Section 8.2

Properties of Chords in Circles

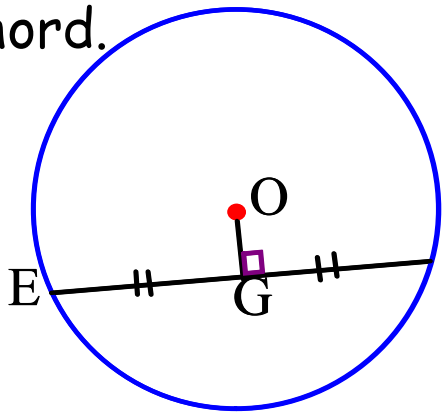


May 2-9:17 AM

Perpendicular to a Chord Property

- A line that joins the center of a circle and the midpoint of a chord is perpendicular to the chord.

When O is the centre and EP = PF, then
$\angle OGE = \angle OGF = 90^0$.

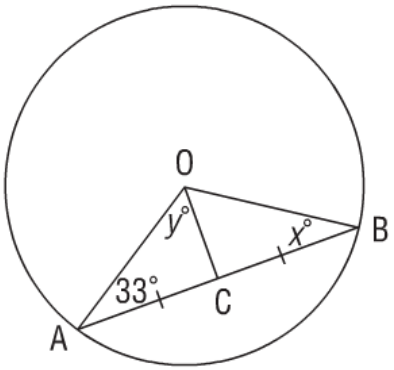


- Cuts chord in half
- Meets at 90°
- Goes through Center
- USE Radius to make right triangle

May 16-3:10 PM

Determining the Measure of Angles in a Triangle

Example #1. Determine the values of x^o and y^o.



Think: What do I know about angle C?

Use angle sum of a triangle:

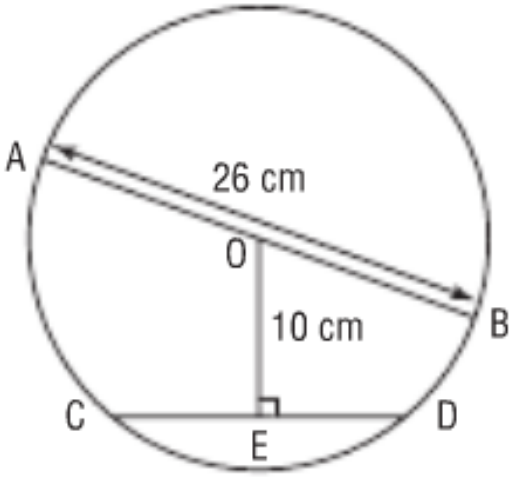
Therefore, y^o =

To find angle x:
We know the radii are equal, so ΔAOB is isosceles.
Then, $\angle OBA = \angle OAB$ (isosceles.)
Therefore, x^o = _____

May 2-3:17 PM

Using the Pythagorean Theorem in a Circle

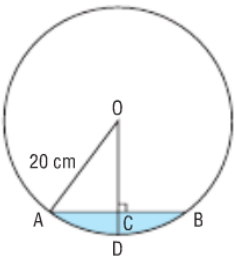
Example #2. What is the length of chord CD, to the nearest tenth?



May 2-4:05 PM

Solving Problems Using the Property of a Chord and its Perpendicular

Example #3. Determine the length of CD.

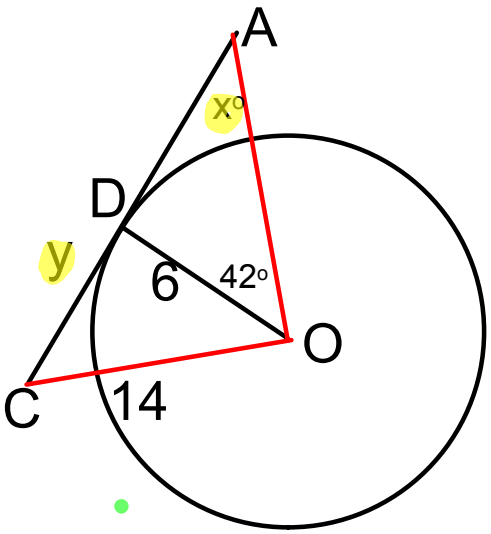


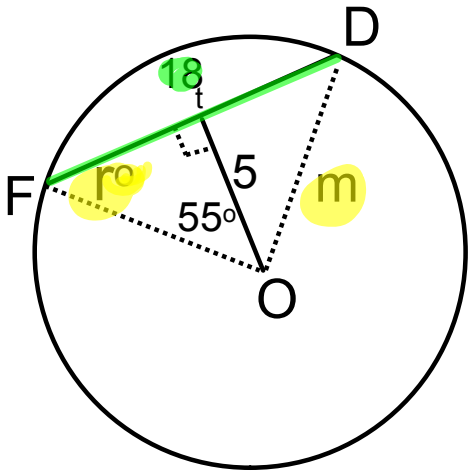
AB = 24 cm

May 2-4:07 PM

Warm Up

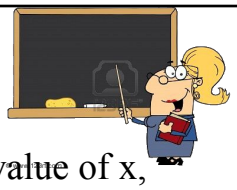
Determine the unknowns:



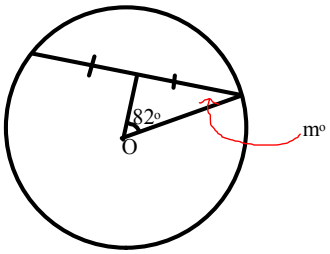


Apr 29-8:09 AM

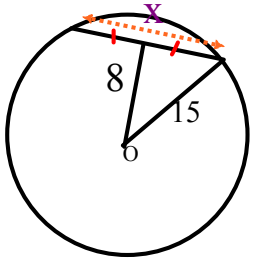
Warm Up



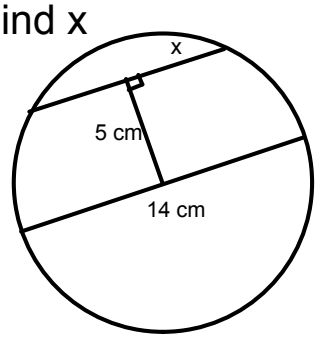
Determine the value of m, when O is the centre



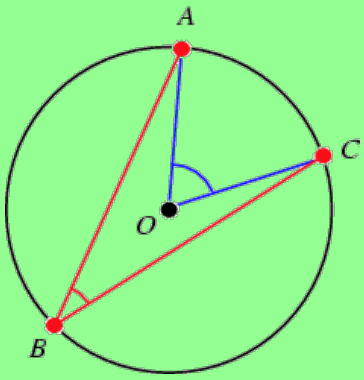
Determine the value of x, when O is the centre



Find x



May 8-9:55 PM



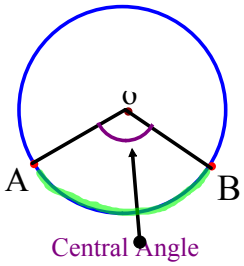
Section 8.3

Properties of Angles in Circles

May 2-9:17 AM

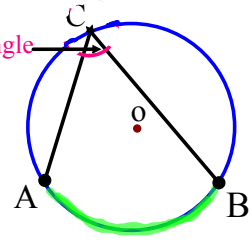
Central Angle:

The angle formed by joinging the endpoints of a arc to the centre of a circle (involves radii)



Inscribed Angle:

The angle formed by joinging the endpoints of a arc to a point on the circle



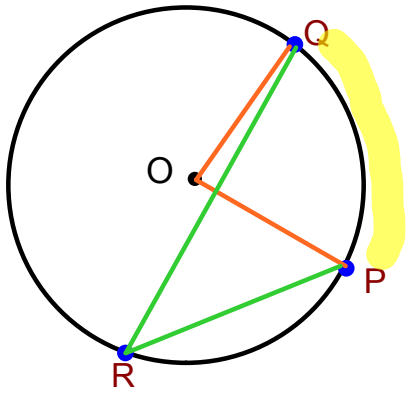
Inscribed and central angles are SUBTENDED by the MINOR arc

come from the same 'smaller arc'

May 8-11:47 PM

Central Angle & Inscribed Angle Property

In a circle, the measure of a central angle subtended by an arc is TWICE the measure of an inscribe angle subtended by the same arc.



$\angle POQ = 2\angle PRQ$

Central angle is twice the inscribed angle

or

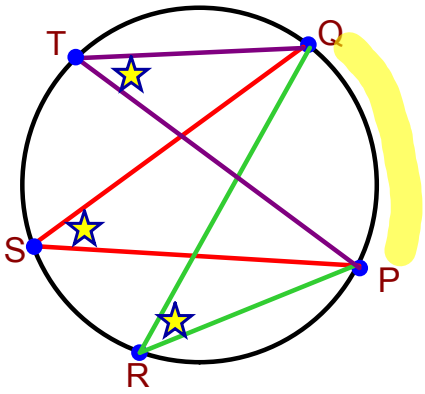
$\angle PRQ = \frac{1}{2}\angle POQ$

Inscribed angle is half the center angle

May 10-12:21 PM

Inscribed Angle Property

In a circle, all inscribed angles subtended by the same arc are congruent.

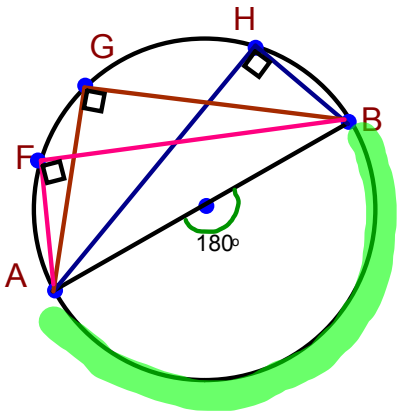


$\angle PTQ = \angle PSQ = \angle PRQ$

May 10-12:39 PM

Angles is a Semicircle Property

All inscribed angles subtended by a semicircle are right angles



Makes sense

Inscribed angles are always half the centre

Center Angle = 180° (Straight Line)

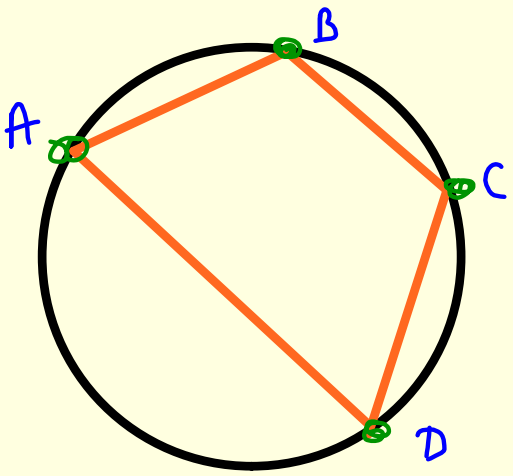
Inscribed angle is half the Central Angle

Inscribed = (1/2) central
=(1/2) 180°
= 90°

May 10-12:46 PM

Cyclic Quadrilateral Angle Properties:

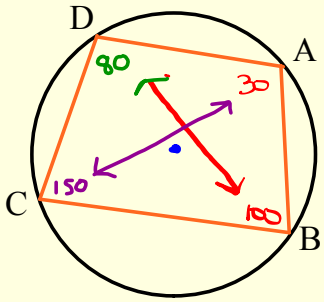
Cyclic Quadrilateral - a four sided figure inscribed in a circle whereby all of the points lie on the circumference of a circle.



Sep 27-10:33 PM

Cyclic Quadrilateral Angle Properties:

Property 4:
_The opposite angles of an inscribed **quadrilateral** are supplementary.
(their sum is 180°)



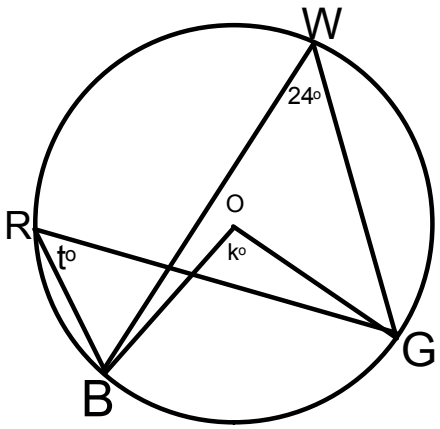
ABCD is an inscribed quadrilateral.
< A and < C are opposite
therefore, < A + < C = 180

< B and < D are opposite
therefore, < B + < D = 180

Sep 27-10:25 PM

Example 1
Using Inscribe and Central Angles

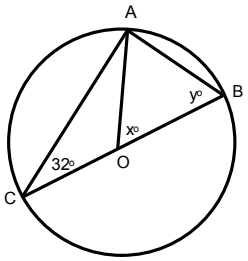
Point O is the center of a circle.
Determine the values of k and t.



May 10-1:15 PM

Example 2

Applying the Property of an Angle Inscribed in a Semicircle



Point O is the center of the circle.
Determine the value of x° and y°.

For Y°

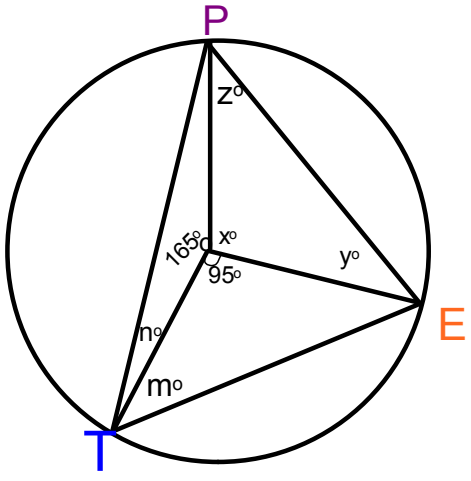
For X°

May 10-1:20 PM

Example 3

Determining Angles in an Inscribed Triangle

Determining the values of x ° , y° , z°, m°, n°



Hint: LOOK AT CENTER ANGLES and Complete the circle for x

May 10-1:51 PM

Textbook Questions

Page 418-419

Questions: 1,2,5,7,9

Page 420

Practice Test

Questions: 1,2,3,6

May 27-1:48 PM

Attachments

CSI Crime Scene Investigation.mp3

Worksheet - Angles in a Circle.doc