TEST Is Now MONDAY, MAY 28th

Chapter 8: Notes

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

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

(SATT)

< ___ = 90° (Tang P)

< ___= __° (ins/cent >, $\overset{\frown}{\_\_}$)

(ITT)

<___= 90° (Chord P)

< ___= __° (ins >, $\overset{\frown}{\_\_}$)

(SAT)

(CAT)

___ = ____(Chord P)

< ___= __° (ins >, diam)

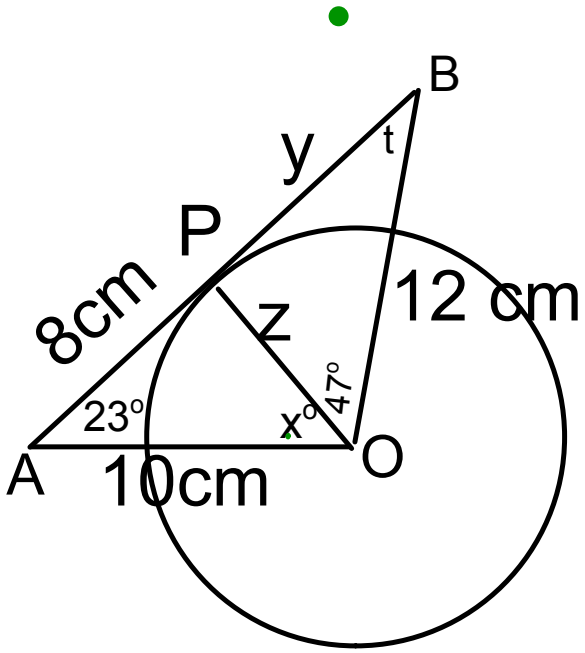
(CyAT)

< ___= __° (CyQuad)

(OAT)

(EAT)

Calculate all the unknowns:



$\angle APO = 90°$ (tang P)
$\angle BPO$

$\angle AOP = 67°$ (SATT)

$\angle PBO = 43°$ (SATT)

Z ⇒ leg

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

$10^2 - 8^2$

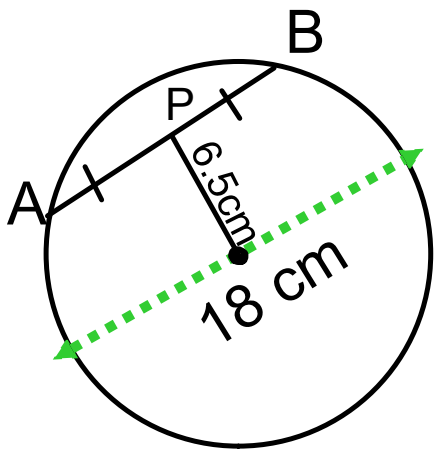
$z = 6$

y = leg

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

$y = 10.4$

Calculate the length of the chord:



$\angle APO = 90°$
$\angle BPO = 90°$
} (chord P)

AP → leg

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

$a^2 = 9^2 - 6.5^2$

$a^2 = 81 - 42.25$

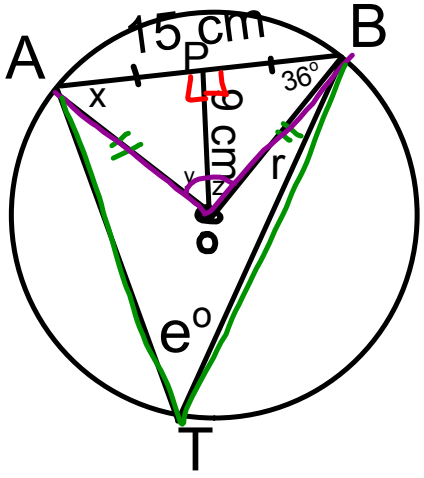
$\sqrt{a^2} = \sqrt{38.75}$

$a = 6.2$

$AB = 2(6.2)$

$AB = 12.4\text{cm}$

Calculate all the unknowns:



$\angle APO = 90°$
$\angle BPO = 90°$ } chord

$\angle BAO = x° = 36°$ (ITT)

$\angle AOP = y° = 180 - 90 - 36$

$y = 54°$ (SATT)

$\angle BOP = z = 54°$ (SATT)

$\angle ATB = e = 54°$ (Ins/cent, AB)

radius → hyp

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

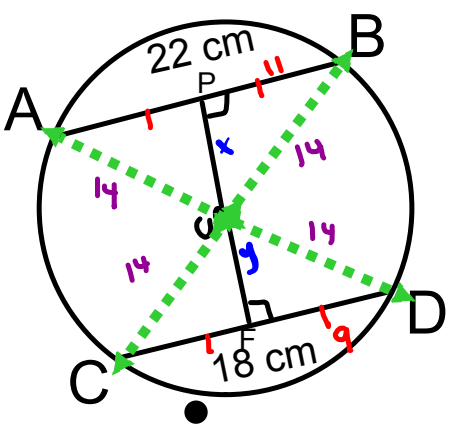
$c^2 = 9^2 + 7.5^2$

$c^2 = 81 + 56.25$

$\sqrt{c^2} = \sqrt{137.25}$

$c = 11.7$

Calculate the largest distance between the two chords if the Chord AB is 22cm and the Chord CD is 18cm and the diameter of the circle is 28 cm: Sketch a diagram



AP = PB (chord)

x → leg

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

$a^2 = 14^2 - 11^2$

$a^2 = 196 - 121$

$\sqrt{a^2} = \sqrt{75}$

$a = 8.7$

CF = FD (chord)

y → leg

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

$a^2 = 14^2 - 9^2$

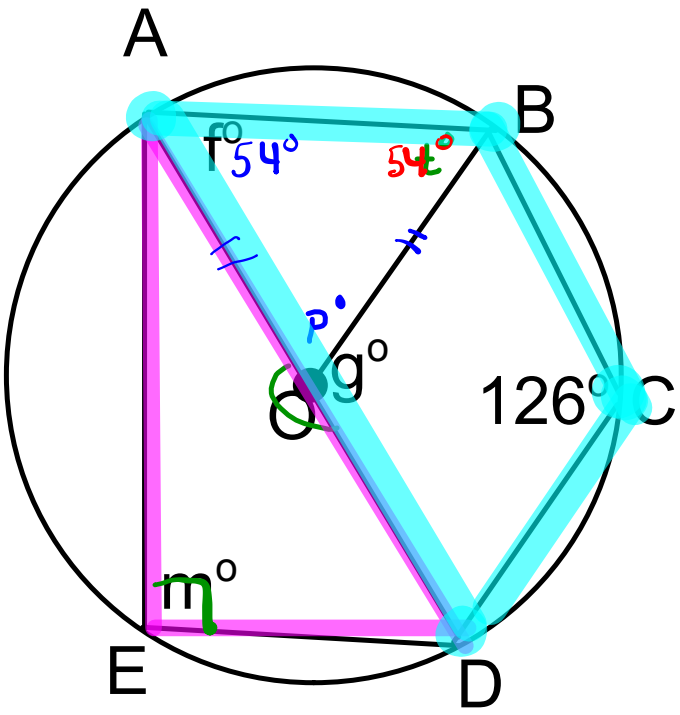
$a^2 = 196 - 81$

$\sqrt{a^2} = \sqrt{115}$

$a = 10.7$

Total distance = 8.7 + 10.7 = 19.4

Warm Up



$m = 90°$ (ins ∠, d

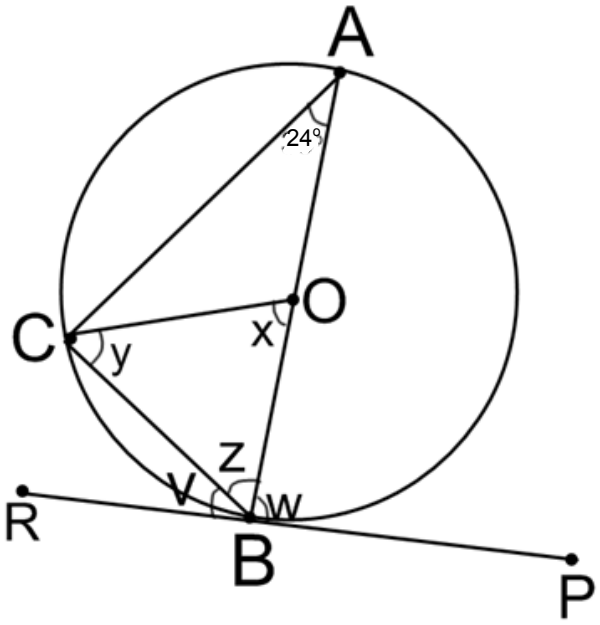
$f° = 54°$ (cyc q ua

$t° = 54°$ (ITT)

$p° = 72°$ (SATT)

$g = 108°$ (SAT) :)

Warm Up



Do on your own

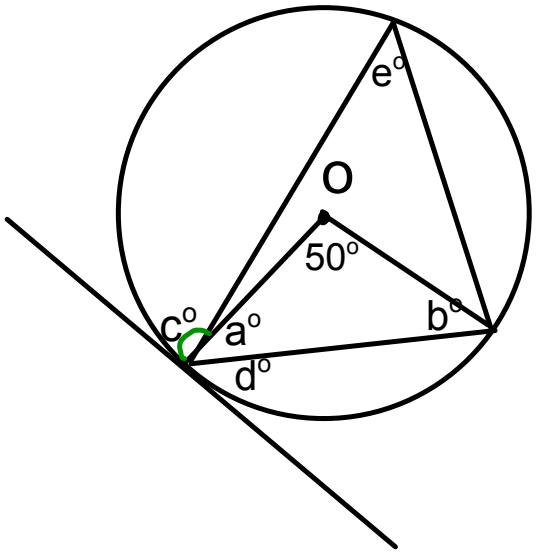
$x = 48°$ (cent $\angle$, $\overset{\frown}{CB}$)

$w = 90°$ (tang P)

$y = 66°$
$z = 66°$] Iso $\triangle$

$V = 24°$ (st line)

Warm Up

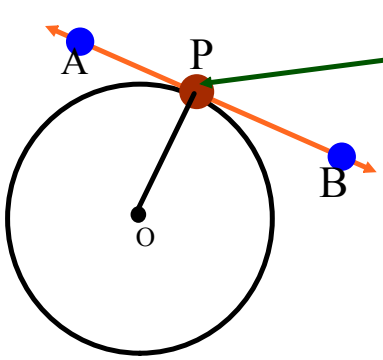


$a^\circ = 65^\circ$
$b^\circ = 65^\circ$
(I + t)

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:



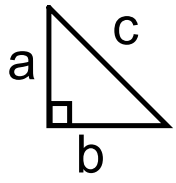
Line AB is a tangent

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

Center is Denoted by "O"

Chapter 8: Notes

Pythagorean theorem



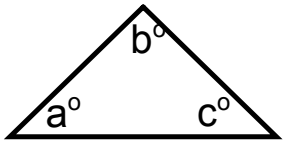
Hyp = ?

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

Leg = ?

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

Angle Sum of Triangle Theorem (SATT)



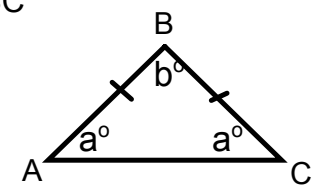
$a^o + b^o + c^o = 180^o$

Isosceles Triangle Theorem (ITT)

Two sides are equal : AB = BC

Base angles are equal:

< A = <C



If a^o = ?

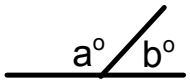
$a^o = \frac{180 - b}{2}$

If b^o = ?

$b^o = 180 - a^o - a^o$

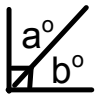
Angle Properties

Supplementary Angle Theorem (SAT)



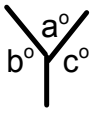
$a^o + b^o = 180^o$

Complimentary Angle Theorem (CAT)



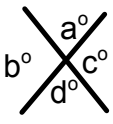
$a^o + b^o = 90^o$

Cyclic Angle Theorem (CyAT)



$a^o + b^o + c^o = 360^o$

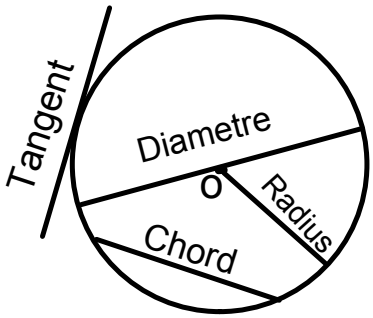
Opposite Angle Theorem (OAT)



$a^o = d^o$

$b^o = c^o$

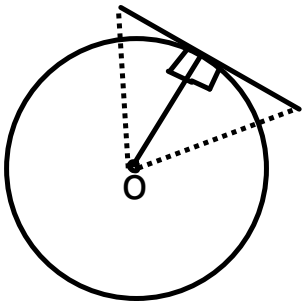
Information about circles



Tangent Property

< ___ = 90° (Tang P)

- a radius hits a tangent at 90°



To solve unknown sides :

Pythagorean Theorem

To solve unknown angles :

SATT

Chord Property

If chord lengths are indicted

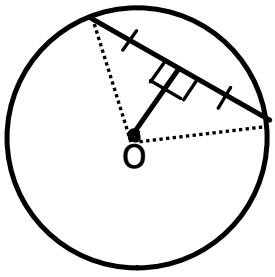
<___= <___= 90° (Chord P)

If 90° is indicated

___ = ____(Chord P)

a line coming from the centre of the circle

- hits chord at a 90° angle
- cuts the chord into two equal pieces



To solve unknown sides :

Pythagorean Theorem

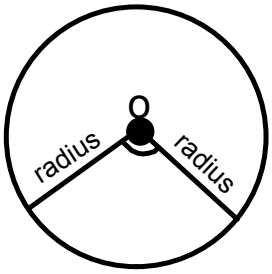
To solve unknown angles :

SATT

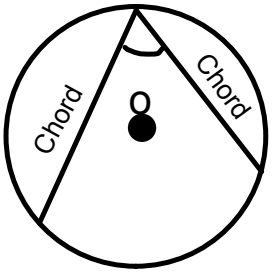
ITT

Circle Properties

Central Angle

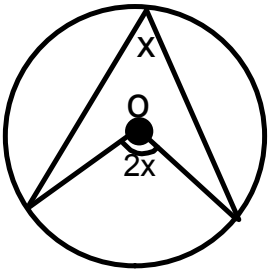


Inscribed Angle



Property # 1: Central & Inscribed Angles

< ___= __° (ins/cent >, ⌒)

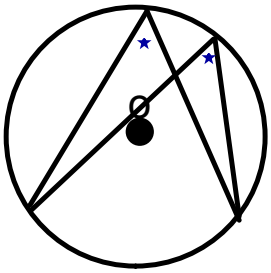


- The central angle is double the inscribed angle

- The inscribed angle is half the central angle

Property # 2: Inscribed Angles

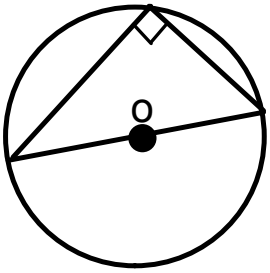
< ___= __° (ins >, ⌒)



- Inscribed angles coming from the same arc are equal

Property # 3: Inscribed from Diameter

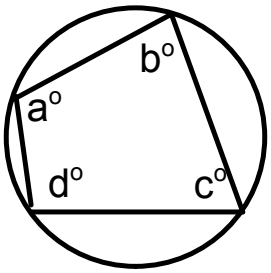
< ___= __° (ins >, diam)



- Inscribed angles coming from the diametre are 90°

Property # 4: Cyclic Quadrilateral

< ___= __° (CyQuad)



- Opposite angles in a cyclic quad must add up to 180°

$a^\circ + c^\circ = 180^\circ$

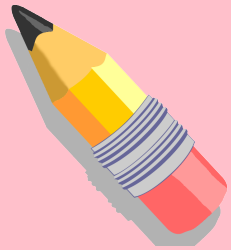
$b^\circ + d^\circ = 180^\circ$

Homework:

TEST Tomorrow

p.418 - 419

#		
	1	8
	2	9
	5	10
	6	
	7	



Practice Test page 420

1,2,3

Attachments

CSI Crime Scene Investigation.mp3

Worksheet - Angles in a Circle.doc