12.3 & 12.4

Properties of Chords & Inscribed Angles

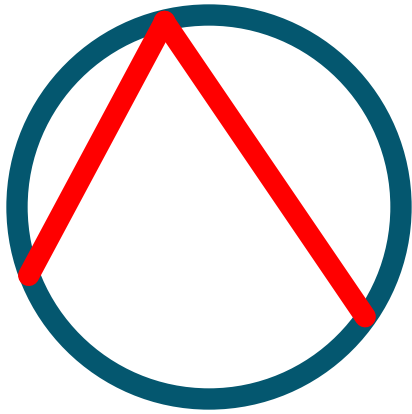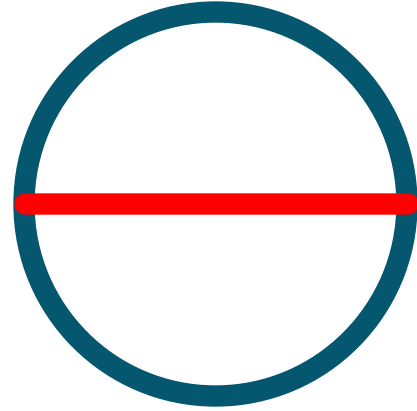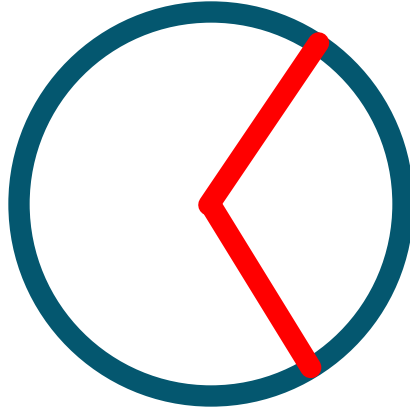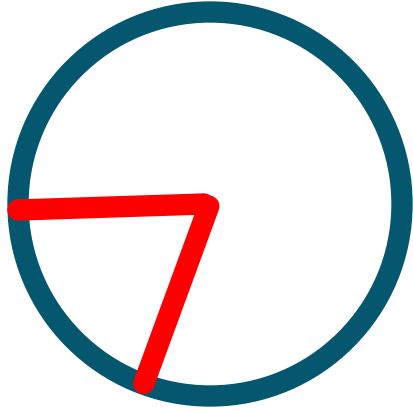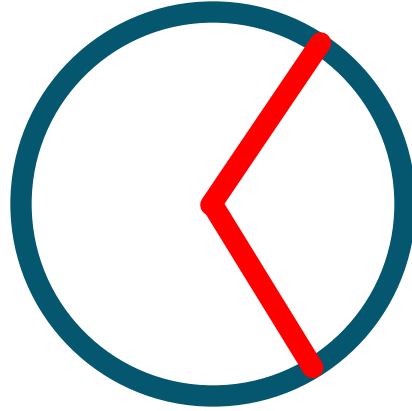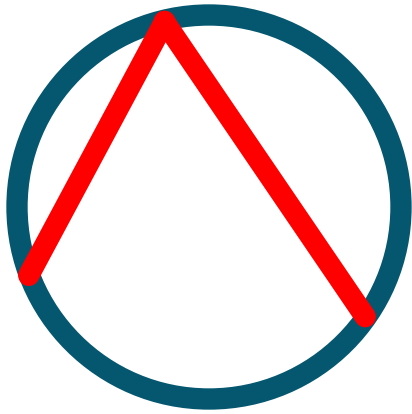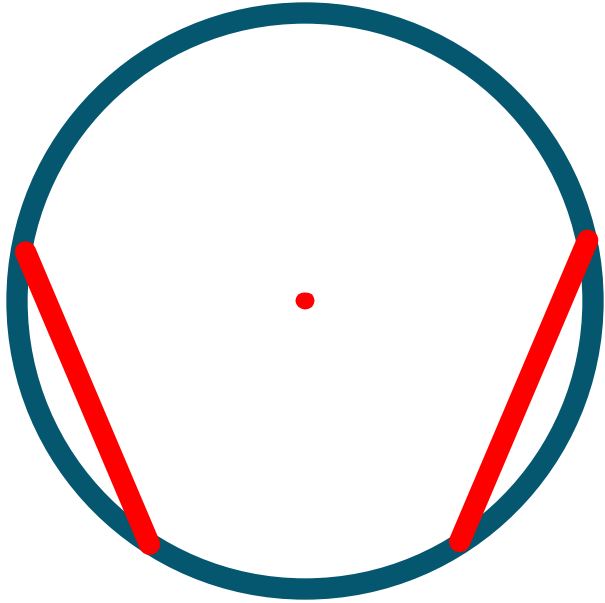# Review - Inscribed Angles
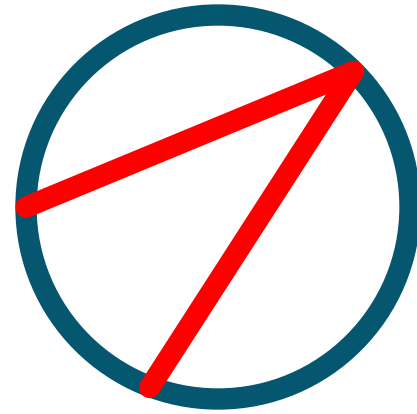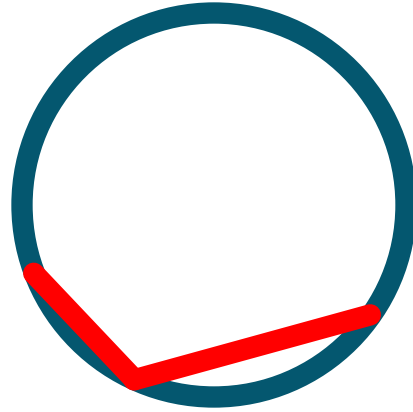
Review - Central Angles

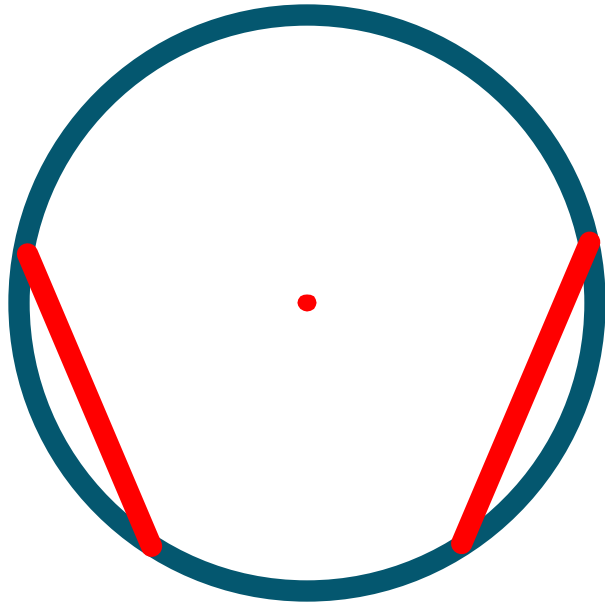# Intercepted Arcs

Chord Properties

Investigation: Chord Properties 1

What's the relationship between congruent chords and the central angles formed using their endpoints?

If two chords in a circle are congruent, then they determine

Chord Properties

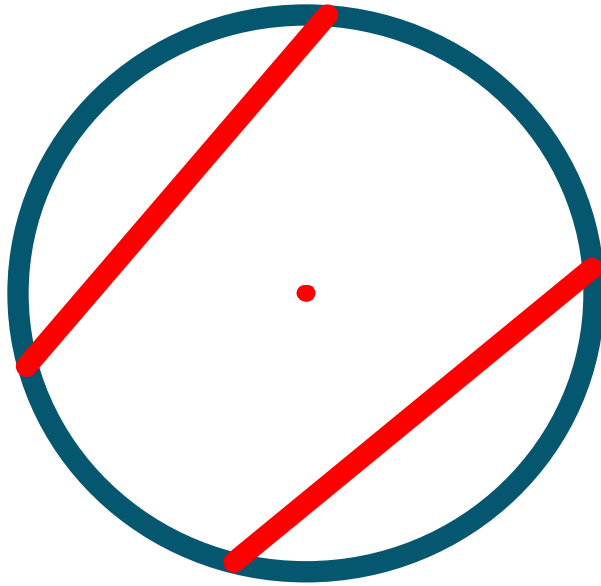
Investigation: Chord Properties 2

What's the relationship between congruent chords and the arcs formed between their endpoints (intercepted arcs)?

If two chords are congruent, then their intercepted arcs are
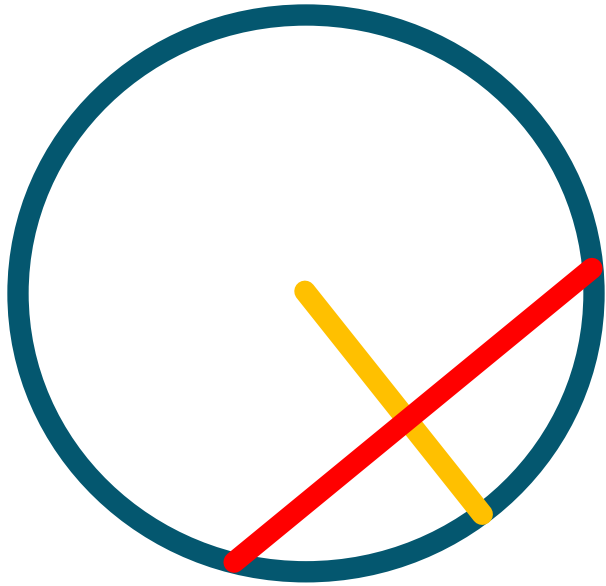
_____

Chord Properties

What's the relationship between congruent chords and their distance from the center?

Two congruent chords in a circle _____

_____

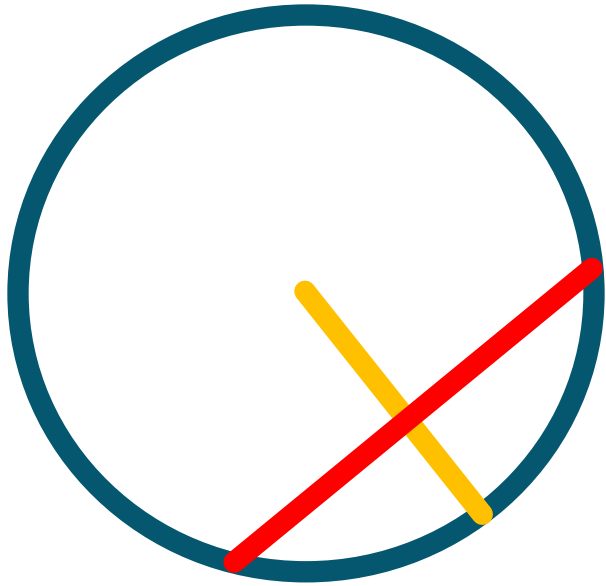# *Chord Properties*

Investigation: Chord Properties 4

What does a perpendicular from the center of a circle do to an intersecting chord?

The perpendicular from the center of a circle to a chord

Chord Properties
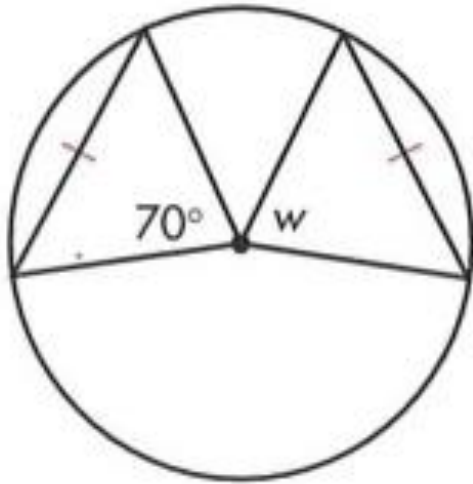

Investigation: Chord Properties 4

If a segment is coming from the center of a circle and bisects a chord, what relationship do they have with each other?

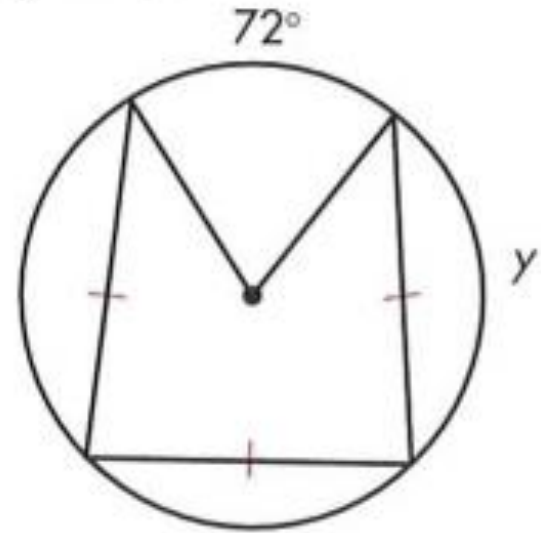A segment coming from the center and bisects a chord
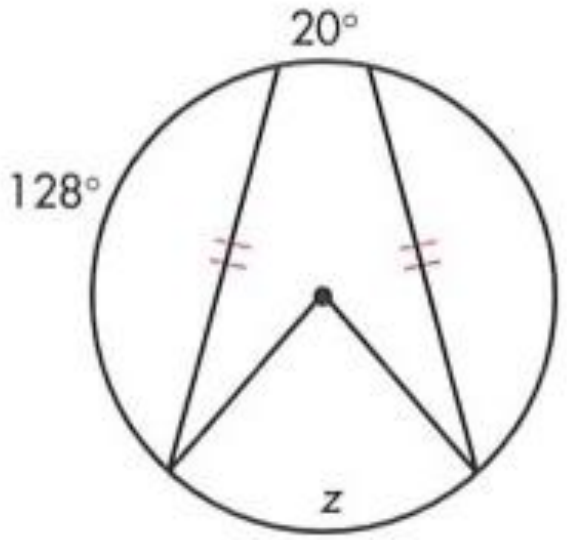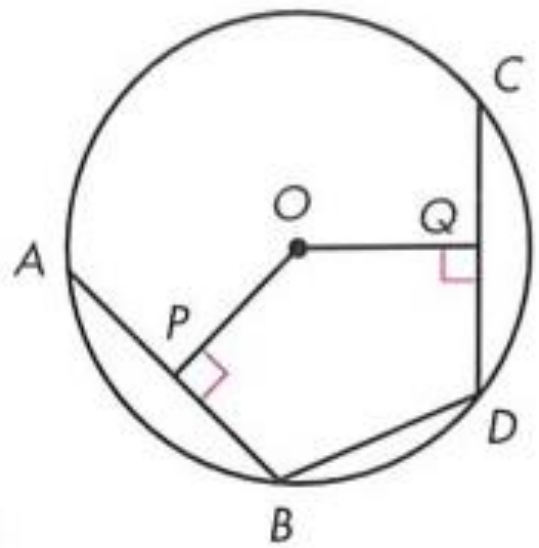
Chord Properties

1) $w = \underline{\quad?\quad}$

2) $y = \underline{\quad?\quad}$

Chord Properties

3) $z = \underline{\ ?\ }$

20°

128°

z

4) $AB = CD$

$PO = 8$ cm

$OQ = \underline{\ ?\ }$

C

O   Q

A

P

D

B
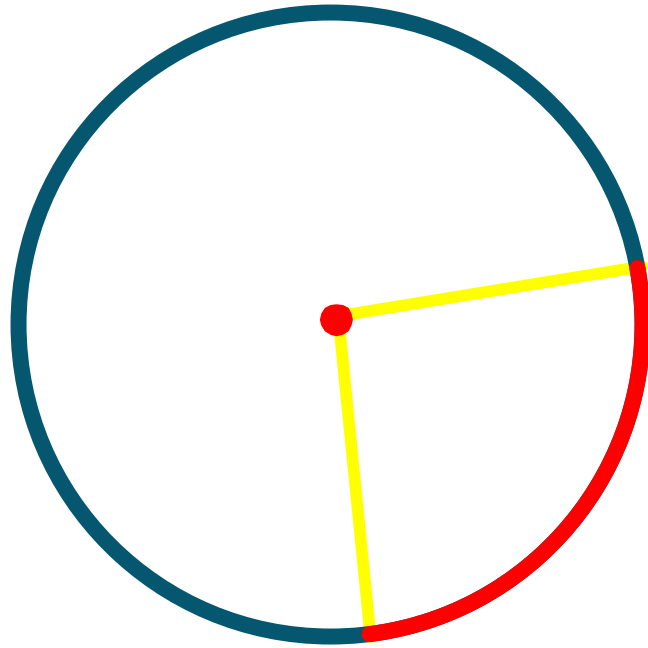
Chord Properties

5) $AB = 6$ cm $OP = 4$ cm

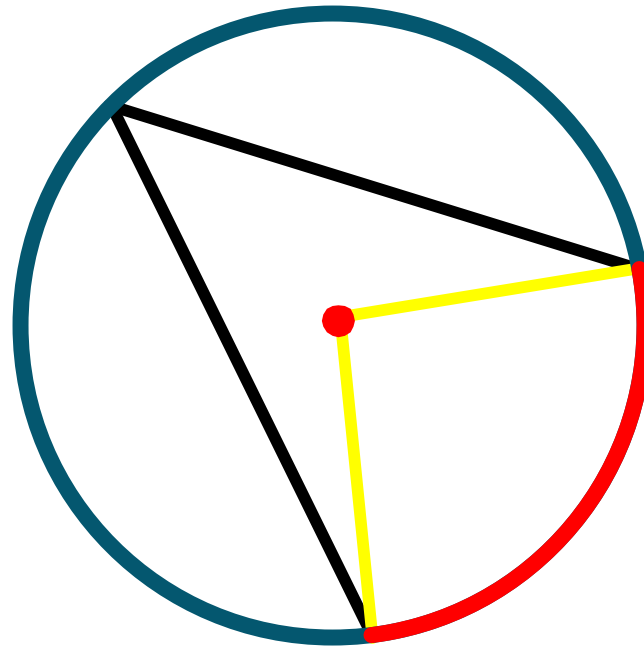$CD = 8$ cm $OQ = 3$ cm

$BD = 6$ cm

What is the perimeter
of $OPBDQ$?
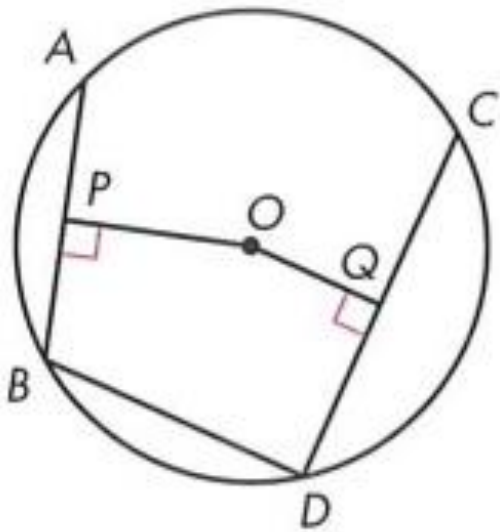
Relationship between central angles and intercepted arcs

The measure of a central angle and the arc made from its endpoints (intercepted arc) are the _____.

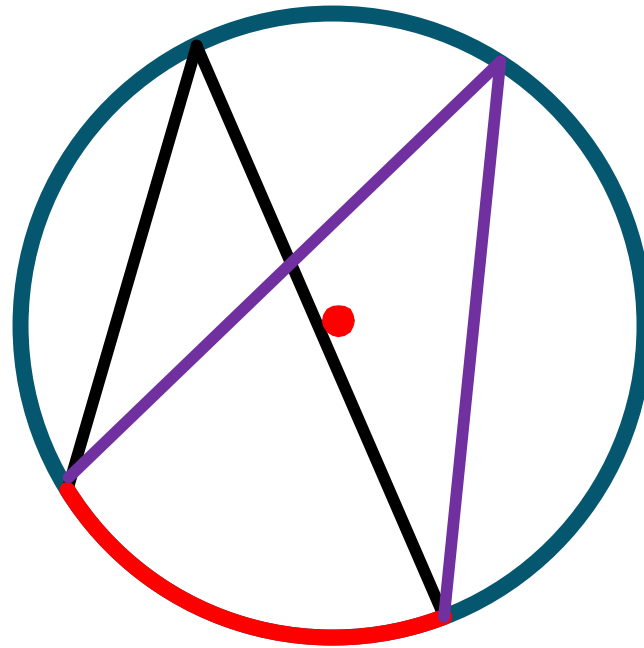# *Relationship between inscribed angles and central angles*

Investigation:
Inscribed Angles 1

POK

<u>Inscribed Angle Theorem</u>

The measure of an _____ angle is half the measure of the _____ angle that shares the same _____ arc

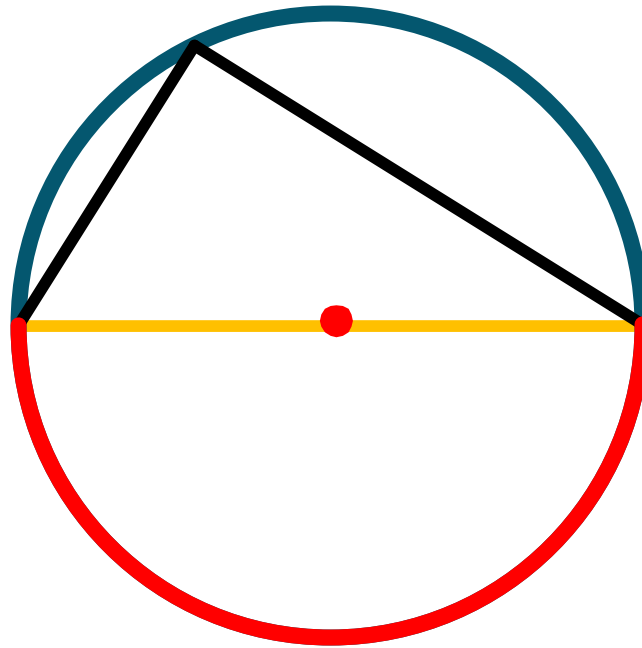# *Relationship between inscribed angles that share the same arc.*

Inscribed angles that share the same _____ arc are _____.

Observations of a right inscribed angle
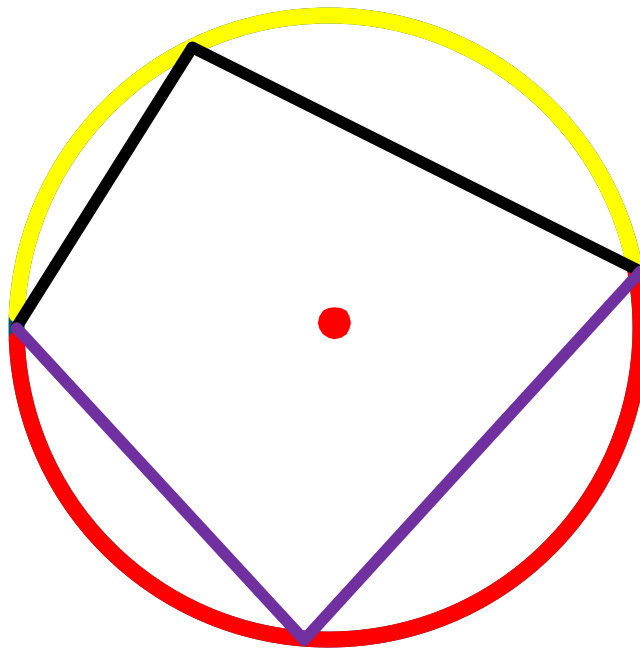

Investigation: Inscribed Angles 3

Angles inscribed in a semicircle are _____ _____.

Quadrilaterals inscribed in a Circle...

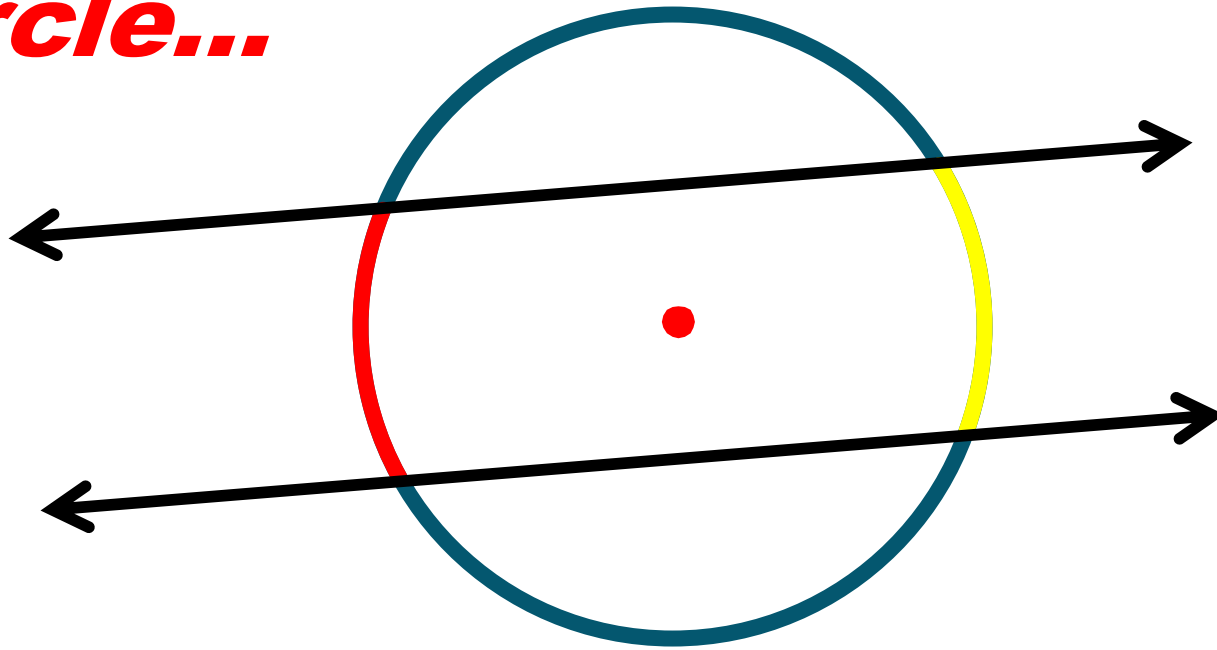*Investigation: Inscribed Angles 4*

POK

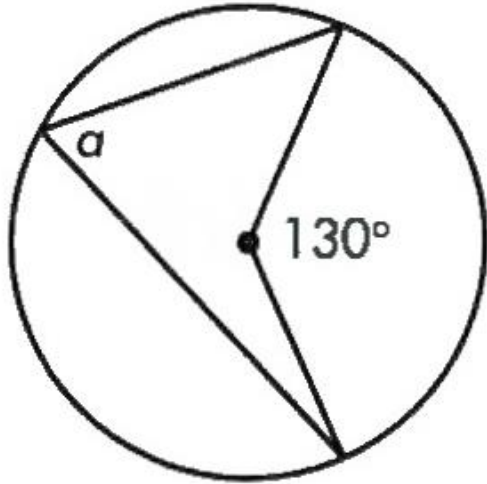## Cyclic Quadrilateral Theorem

_____ angles in a cyclic quadilateral are _____.

Parallel Lines Intersecting a Circle...

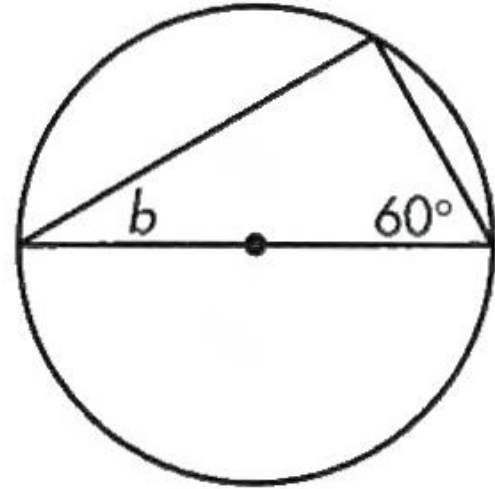**Parallel lines intercept _____ arcs on a circle.**
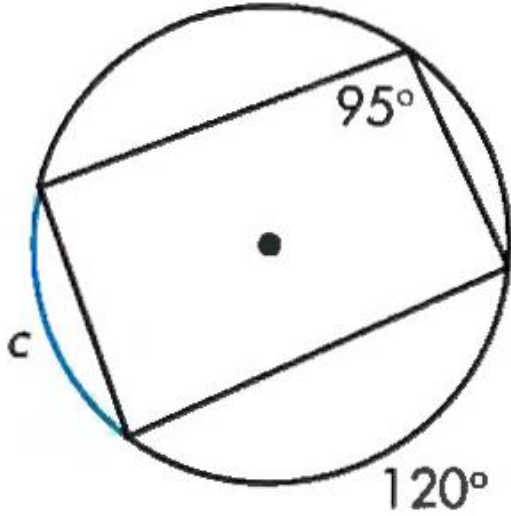
Inscribed Angle Properties

6) $a = -?-$

7) $b = -?-$

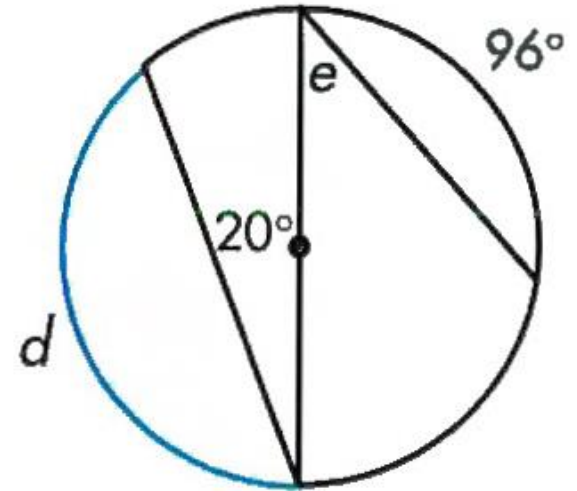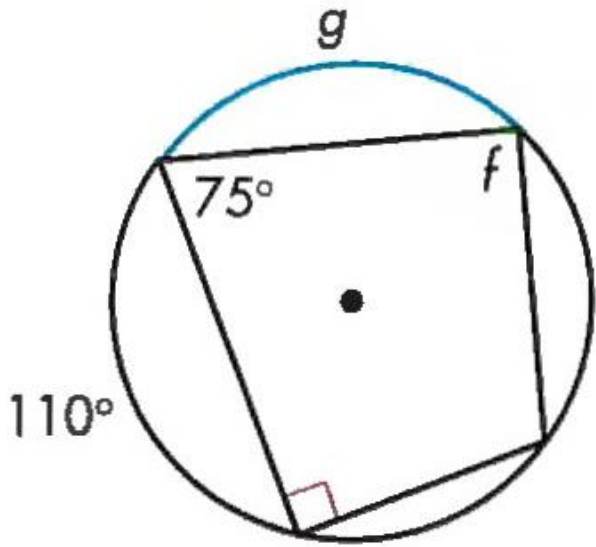# Inscribed Angle Properties

8) $c = -?-$

95°

c

120°

9) $d = -?-$

$e = -?-$

96°

e

20°

d

Inscribed Angle Properties

10)

$f = \text{--?--}$

$g = \text{--?--}$

11)

DOWN is a kite.

$y = \text{--?--}$