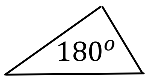
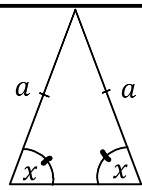
M9 - 10.0 - Parallel Lines/Circles Review

Use your hands | Extend the Lines

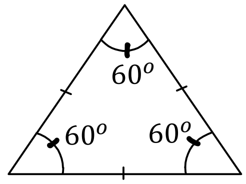
Triangles



Scalene

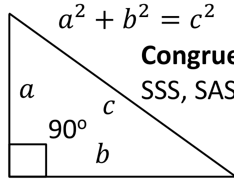


Isosceles



Equilateral

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

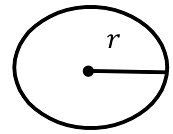


Right Angle

Congruent
SSS, SAS, ASA, AAS, HL

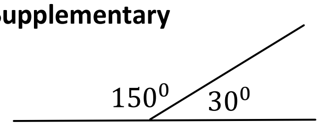
Similar
AAA

Circles



$A = \pi r^2$ $\quad C = 2\pi r$

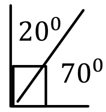
Supplementary



Angles on a line sum to 180^o.

$\angle 1 + \angle 2 = 180^o$

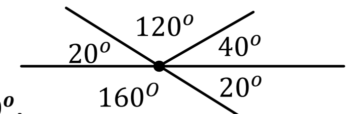
Complementary



Angles sum to 90^o.

$\angle 1 + \angle 2 = 90^o$

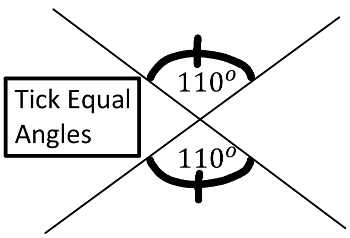
$\angle' s$ on a point add to 360^o



$180^o + 180^o = 360^o$

Parallel lines: Lines never touch

Opposite Angles are Equal.

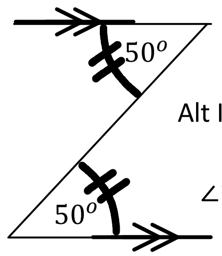


X

OPP $\angle$'s =

$\angle 1 = \angle 2$

Alternate Interior Angles Equal.



Double Tick Equal Angles

Z

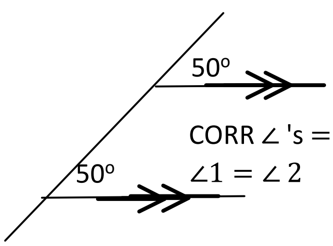
Alt Int. $\angle$'s =

$\angle 1 = \angle 2$

Alternate: Across a Transversal.

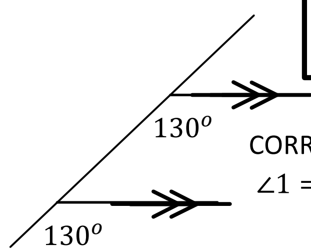
Interior: Inside Parallel Lines.

Corresponding Angles Equal.



CORR $\angle$'s =

$\angle 1 = \angle 2$



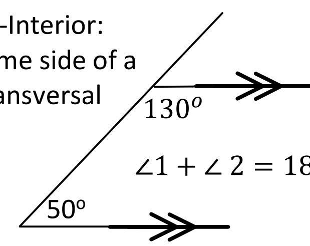
CORR $\angle$'s =

$\angle 1 = \angle 2$

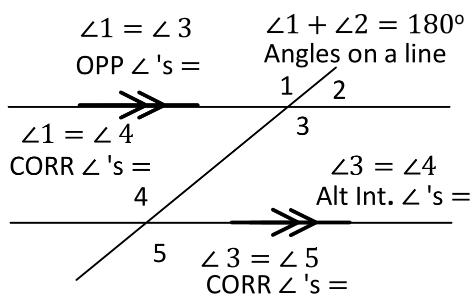
C

Co-Interiors $\angle' s$ add to 180º

Co-Interior: Same side of a Transversal



$\angle 1 + \angle 2 = 180^o$

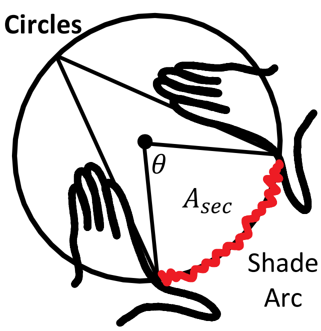


Transversal: a line through Parallel Lines.

Transitive
$a = b \quad b = c$
$a = c$

$\angle 1 = \angle 3$
$\angle 3 = \angle 5$
$\angle 1 = \angle 5$

Circles

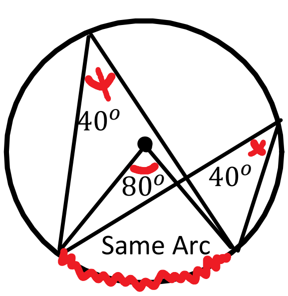


$\frac{\theta}{360} = \frac{A_{sec}}{\pi r^2}$

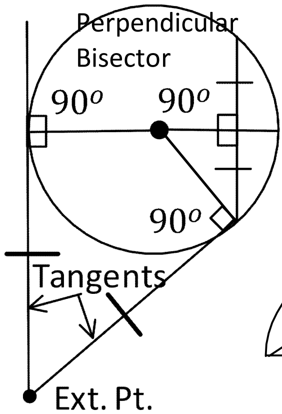
Equal Fractions

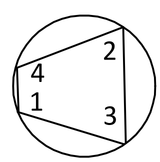
$\frac{\theta}{360} = \frac{arc}{2\pi r}$

$I\angle' s = I\angle' s$

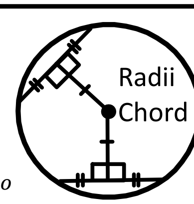


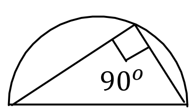
$C\angle' s = 2 \times I\angle' s$



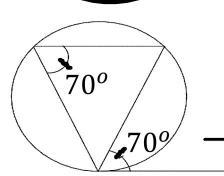


$\angle 1 + \angle 2 = 180^o$
Quadrilateral



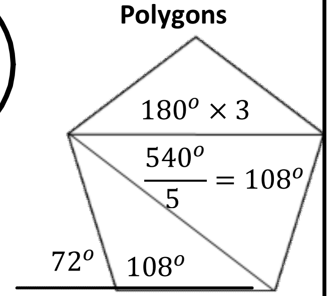


Semicircle



Tangent Chord

Polygons



M9 - 10.0 - Circles Review

Use your hands

Triangles
Draw Triangles
180^0 in a Triangle
Isosceles
Equilateral
Right - Pythagoras
3rd Angle in a triangle

Congruent Triangles
SAS
ASA
SSS
AAS

Similar Triangles
AAA

Parallel Line Rules
Angles on a line Sum to 180^o.
Complementary Angles add to 90^o.
Angles on a Point Sum to 360^o
Opposite Angles are Equal.
Alternate Interior angles Equal.
Corresponding Angles Equal.
Co-Interiors Angles add to 180^o

Equal Angles/Parallel Lines
Tick/Double Tick The Equal Lines/Angles
Arrow/Double* the Parallel Lines

Methods
Rotate the Page
Extend Parallel/Lines
Extend the Transversal Lines
Draw a Radius/Connect Points
Draw a Radius to Exterior Point

Identify an unknown as "x"

Identifying Angles in Circles
1. Make a slice of Pie with your Left and Right Hand.
2. Central/Inscribed Angle is between your Index Fingers.
3. Arc/Chord is crust of Piece of Pie.
4. Shade Arc

Finding Shared Arcs/Chords
Do you see an Angle measure?
What type of Angle is it?
Where is its Arc/Chord?
Shade in its Arc.
Any other Angles from that Arc/Chord?

Circle Rules (Bisects: Cuts in half)
Central Angles from Equal Arcs are Equal.
Inscribed Angles from Same/Equal Arc/s are Equal.

Inscribed Angles are Half Central Angles from Same/Equal Arc/s.
Central Angles are Twice Inscribed Angles from Same/Equal Arc/s.

Tangent Lines are Perpendicular to Radius.
Perpendicular Bisector of a Chord passes through Center of Circle.
Tangents to Exterior Points are Equal.

Opposite Angles in a Cyclic Quadrilateral Sum to 180^o.
Inscribed Angles in a Semi-Circle Equal 90^o.

The Angle between the Tangent and the Chord is Equal to the Inscribed Angle on the Opposite side of the Chord.

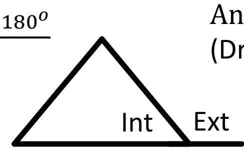
Agons:
Pent: 5
Hex: 6
Hept: 7
Oct: 8
Non: 9
Dec: 10
DoDec: 12

Polygons $\boxed{n = \text{\# of sides}}$ Regular: All Sides/Angles =

Sum of Interior Angles = $(n-2) \times 180^o$

Interior Angle $= \frac{Sum}{n} = \frac{(n-2)\times 180^o}{n}$

Interior + Exterior $= 180^o$



Angles in a Triangle Sum to 180^o
Angles in a Quadrilateral Sum to 360^o
Angles in a Pentagon Sum to 540^o
(Draw Triangles: Sum = $180^o \times$ # of △'s)

Sum of all Exterior Angles sum to 360^o