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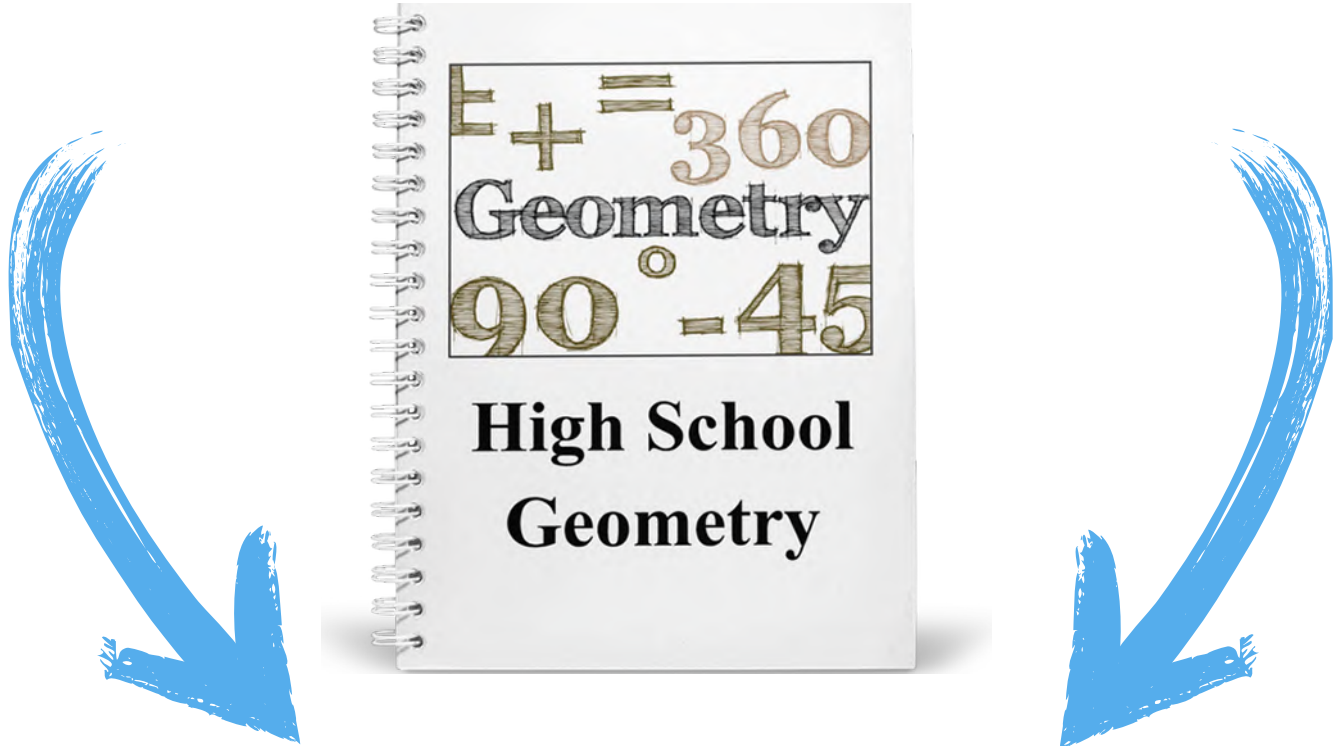
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LOVE THESE FLASH CARDS?

Here is the Geometry Curriculum to use with them!



On My Teaching Library @
<https://myteachinglibrary.com/product/high-school-geometry>



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by clicking here!

Printing directions:

Set printer to double sided - Flip on long edge

Point

Line

Line Segment

Ray

Plane

Angle

Acute Angle

Obtuse Angle

Right Angle

Straight Angle

a set of points that go through two given points and extends infinitely in opposite directions



Symbol: \overleftrightarrow{AB}

a location in space



Symbol: P

A set of points that starts at one point and extends infinitely in one direction.



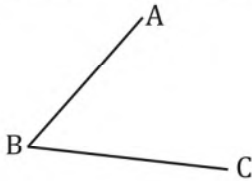
Symbol: \overrightarrow{AB}

part of a line



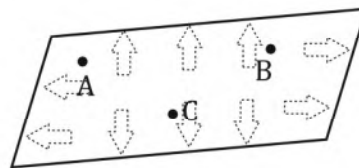
Symbol: \overline{AB}

The measure in degrees between two segments or rays joined at a vertex.



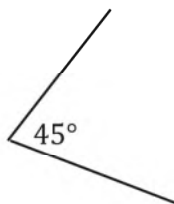
Symbol: $\angle B$, $\angle ABC$, or $\angle CBA$

A two dimensional surface that extends infinitely in all directions.

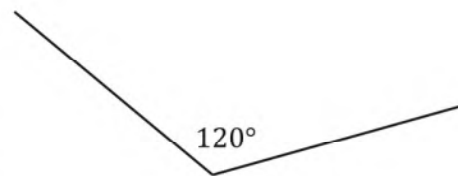


Name: "Plane ABC"

An angle that measures between 90° and 180° .



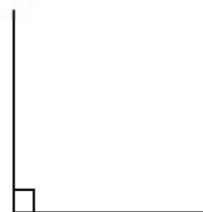
An angle that measures between 0° and 90° .



An angle that measures 180° . (Also the same as a line or line segment.)



An angle that measures 90° .



Vertex

Perpendicular

Parallel

Congruent

Bisect

Midpoint

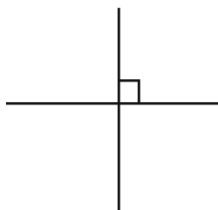
Acute Triangle

Obtuse Triangle

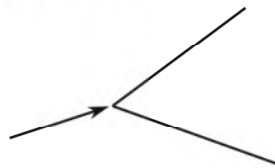
Right Triangle

Scalene Triangle

Two lines that intersect at right angles.

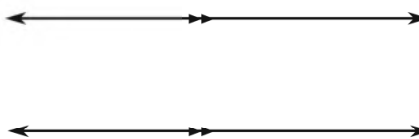


The point where two rays or segments meet to form an angle.

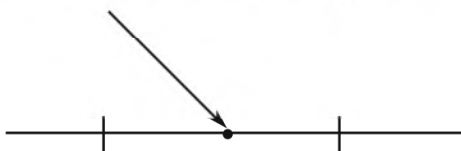


exactly the same size and shape

Two lines in a plane that never intersect.

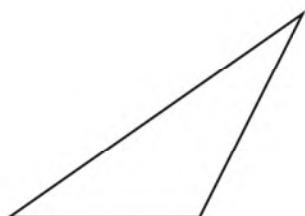


A point that is exactly in the middle of a line segment and bisects the segment.

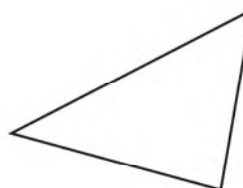


to cut exactly in half so that both sides are exactly the same

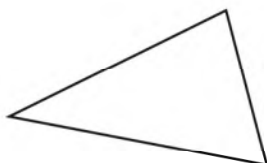
A triangle that contains one obtuse angle.



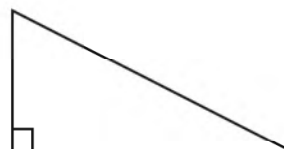
A triangle that contains three acute angles.



A triangle that has 3 different side lengths.



A triangle that contains one right angle.



Isosceles Triangle

Isosceles Triangle
Theorem

Equilateral Triangle

Hypotenuse

Leg

Pythagorean Theorem

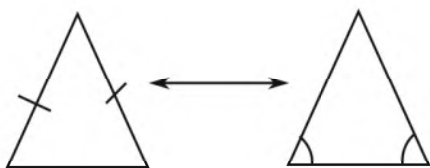
Pythagorean Triple

Scale Factor

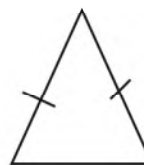
Perimeter

Area

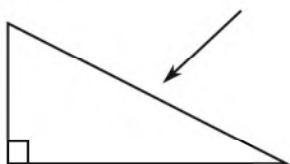
If a triangle is isosceles then its base angles are congruent.



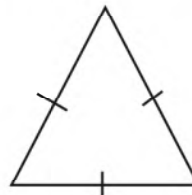
A triangle that has two congruent sides.



The side opposite the right angle in a right triangle. The longest side of a right triangle.

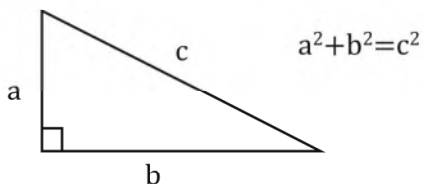


A triangle that has three congruent sides.

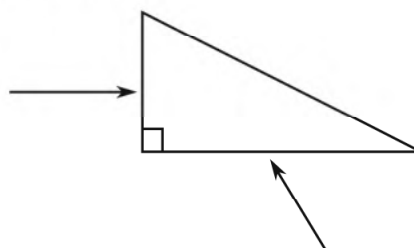


Also, all angles measure 60° ($180^\circ/3=60$).

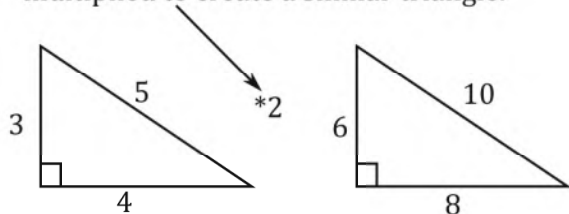
The sum of the squares of the two legs of a right triangle is equal to the square of the hypotenuse.



The two sides of right triangle that aren't the hypotenuse.



The factor by which a Pythagorean triple is multiplied to create a similar triangle.



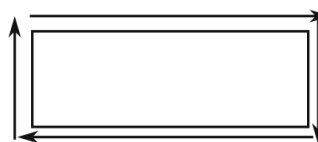
Any three whole numbers that make the Pythagorean theorem true.

3-4-5
5-12-13
7-24-25
8-15-17
ect...

The number of square units that fit inside a two dimensional figure, measured in units squared. Ex. 6in^2



The total distance around a two dimensional figure. The sum of the sides of a polygon.



Area of a Rectangle

Area of a Parallelogram

Area of a Triangle

Area of a Trapezoid

Area of a Rhombus by
its Diagonals

Area of a Circle

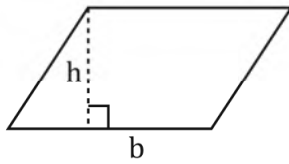
Area of a Square

Height

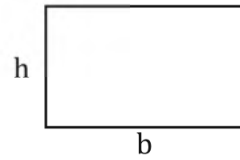
Prism

Pyramid

Area = base times height.
 $A=bh$

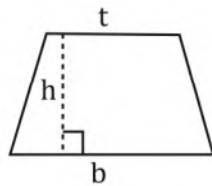


Area = base times height.
 $A=bh$



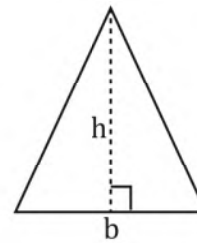
Area = base + top times height, divided by two.

$$A = \frac{(b+t)h}{2}$$

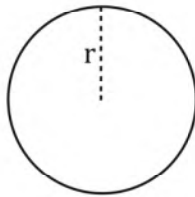


Area = base times height divided by two.

$$A = \frac{bh}{2}$$

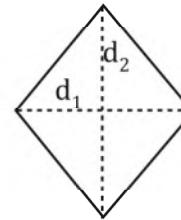


Area = pi times the radius squared.
 $A=\pi r^2$

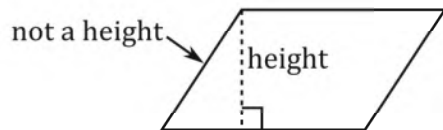


Area = the product of the diagonals divided by two.

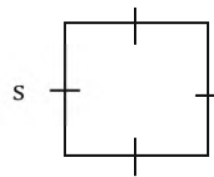
$$a = \frac{d_1 * d_2}{2}$$



The distance that spans from the base of a figure to its highest point, and is perpendicular to the base.



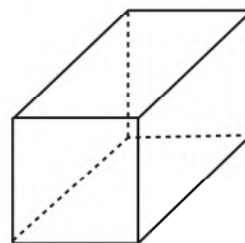
Area = side squared.
 $A=s^2$



A three dimensional figure, whose base is a polygon and extends upwards to a single point.



A three dimensional figure, made of polygons, whose base and top are congruent polygons.



Cylinder

Cone

Volume

Volume of a Prism

Volume of a Cylinder

Volume of a Pyramid

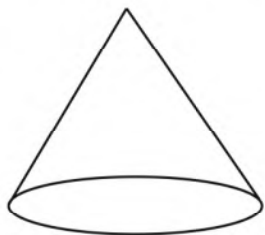
Volume of a Cone

Total Surface area

Lateral Surface area

Adjacent Angles

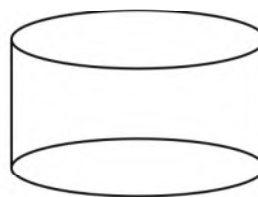
A three dimensional figure, whose base is a circle, and extends upwards to a single point.



Volume= the area of the base times the height.

$$V=Bh$$

A three dimensional figure whose base and top are congruent circles.



The space inside a three dimensional figure measured in units cubed.

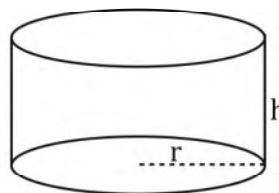
Ex. 6in^3

Volume= the area of the base times the height divided by three.

$$V=\frac{Bh}{3}$$

Volume= pi times the radius squared times the height.

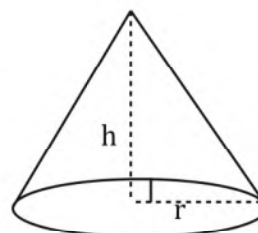
$$V=\pi r^2 h$$



The area of all the faces of a three dimensional figure added together.

$V= \pi r^2 h$ times the height divided by three.

$$V=\frac{\pi r^2 h}{3}$$



Two angles that share a common ray or segment and a common vertex. (next door neighbors)



The area of all the faces of a three dimensional figure except the bottom and/or top.

Angle Addition Postulate

Complementary
Angles

Supplementary Angles

Linear Pair

Vertical Angles

Parallel Lines cut by a
Transversal

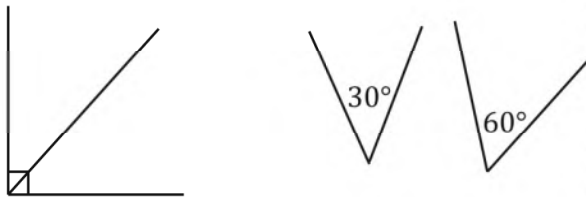
Corresponding Angles

Alternate Interior Angles

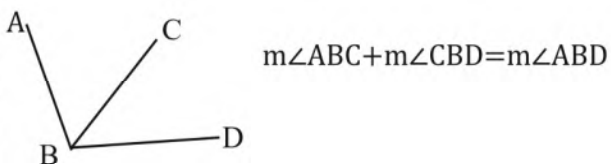
Alternate Exterior Angles

Consecutive Angles

Two angles whose measures add to 90°.



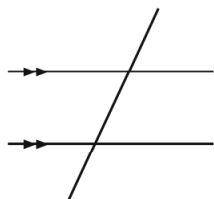
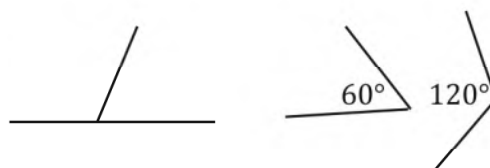
If two angles are adjacent then the sum of the two smaller angles equals the measure of the largest angle.



Two angles that are supplementary and adjacent.

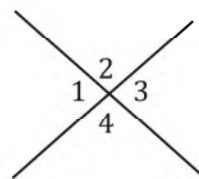


Two angles whose measures add to 180°.

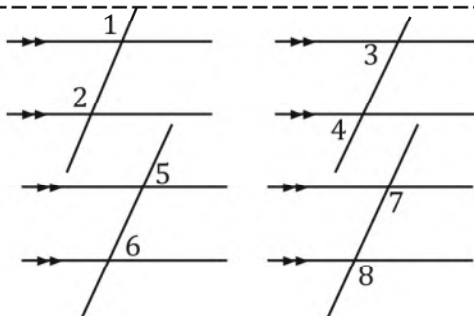
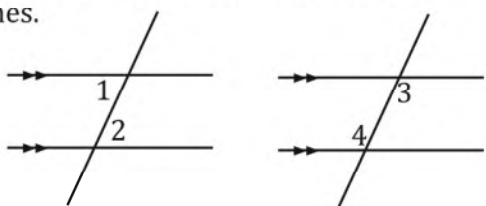


∠1 and ∠3

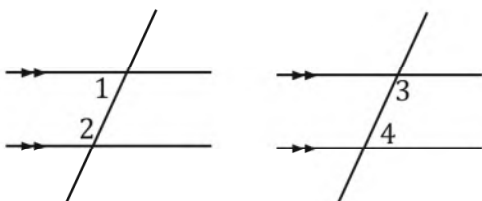
∠2 and ∠4



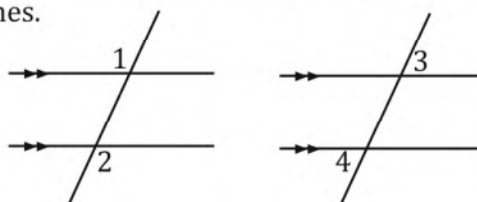
The angles that are on opposite sides of the transversal inside the parallel lines.



$m\angle 1 + m\angle 2 = 180^\circ$ $m\angle 3 + m\angle 4 = 180^\circ$



The angles that are on opposite sides of the transversal outside the parallel lines.



Triangle Sum Theorem

Remote Exterior Angle
Theorem

Triangle Inequality Theorem

Hinge Theorem

Triangle Congruence
Properties/Theorems

Deductive Reasoning

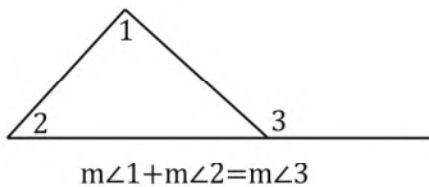
Inductive Reasoning

Conditional Statement

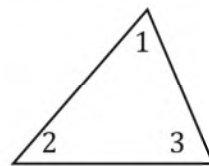
Hypothesis

Conclusion

The sum of the measures of two interior angles of a triangle is equal to the measure of the remote exterior angle.



The sum of the measures of the interior angles of any triangle is 180°



$$m\angle 1 + m\angle 2 + m\angle 3 = 180^\circ$$

The sum of two sides of any triangle is the maximum length of the third side, and the difference of the the two sides is the minimum length of the third side.

$$s_1 + s_2 = s_3 \text{ max}$$

$$s_1 - s_2 = s_3 \text{ min}$$

For a triangle to exist, two sides of the triangle must always be greater than the third side..

$$s_1 + s_2 > s_3$$

Using facts, definitions, postulates and theorems to reach a conclusion.

- SSS Side, Side, Side
- SAS Side, Angle, Side
- ASA Angle, Side, Angle
- AAS Angle, Side, Angle
- HL Hypotenuse, Leg (for right triangles)

a cause and effect relationship stated as...

$$\text{If } p \text{ Then } q$$

$$p \Rightarrow q$$

Making a general statement inferred from specific examples.

(like finding the rule to a pattern)

The part of a conditional statement that comes after "then." (the "effect")

q

The part of a conditional statement that comes after "if." (the "cause")

p

Law of Detachment

Law of Syllogism

Converse

Inverse

Contrapositive

Counter Example

Negation

Bi-Conditional Statement

Proof

Reflexive Property

For any two conditional statements $p \Rightarrow q$ and $p \Rightarrow r$ and they are both true, then $p \Rightarrow r$ is also true.

For any conditional statement $p \Rightarrow q$ and this statement is true, if p is true then q is also true.

If not p then not q .

$$\sim p \Rightarrow \sim q$$

If q then p .

$$q \Rightarrow p$$

A specific example that proves a statement false.

It is true for p but shows q is false.

If not q then not p .

$$\sim q \Rightarrow \sim p$$

A conditional statement that is true, and its converse is also true.

written: Iff p then q

("iff" is not a typo)

To make something the opposite using such words as "not," "no," "isn't," etc.

To say that something is equal to itself.

Ex. $2=2$ $AB=AB$ etc.

A process of demonstrating some statement is true using facts, given information, and logical reasoning.

Two Column Proof

Substitution

Additive, Subtractive,
Multiplicative, Division
Properties of Equality

Sin x

Cos x

Tan x

Tangent Identity

Pythagorean Identity

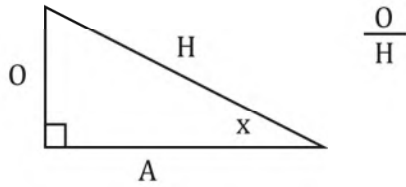
45-45-90 Triangle

30-60-90 Triangle

If $AB=CD$ and $CD=DE$, then $AB=DE$.

If $x=2$ and $y=x$, then $y=2$.

Statements	Reasons



Performing the same operation to both sides of an equation keeps the equation equal.

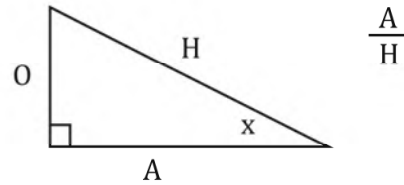
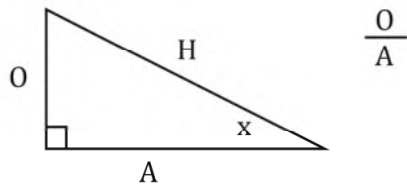
Ex.

$$\frac{2x=4}{2 \quad 2}$$

$$AB+CD=EF$$

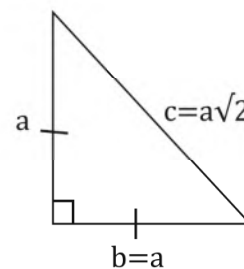
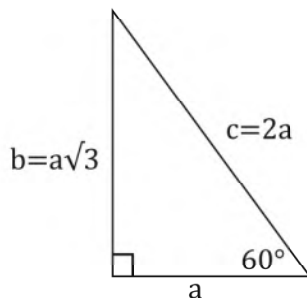
$$-CD \quad -CD$$

$$AB=EF-CD$$



$$\sin^2x + \cos^2x = 1$$

$$\tan x = \frac{\sin x}{\cos x}$$



Quadrilateral

Trapezoid

Parallelogram

Rectangle

Rhombus

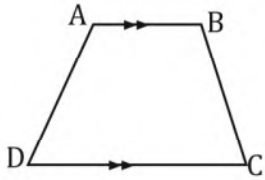
Square

Kite

Sum of the
Interior Angles of Polygons

Sum of the Exterior
Angles of Polygons

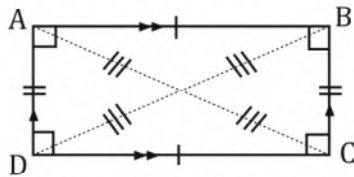
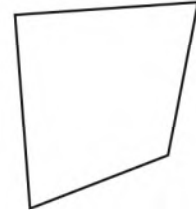
Regular



One pair of parallel sides $AB \parallel CD$

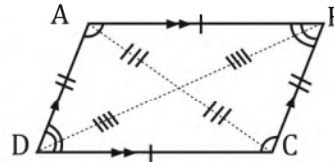
Two pairs of consecutive angles $m\angle D + m\angle A = 180^\circ$
 $m\angle B + m\angle C = 180^\circ$

A four sided polygon



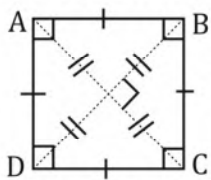
All angles are right angles.

Two pairs of parallel sides $\overline{AB} \parallel \overline{CD}$, $\overline{AD} \parallel \overline{BC}$
 Two pairs of congruent sides $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{BC}$
 Diagonals bisect each other and are congruent.
 $\overline{AC} \cong \overline{BD}$



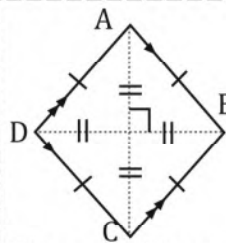
Opposite angles are congruent $\angle A \cong \angle C$,
 $\angle B \cong \angle D$.

Two pairs of parallel sides $\overline{AB} \parallel \overline{CD}$, $\overline{AD} \parallel \overline{BC}$
 Two pairs of congruent sides $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{BC}$
 Diagonals bisect each other.
 Four pairs of consecutive angles
 $m\angle D + m\angle A = 180^\circ$ $m\angle A + m\angle B = 180^\circ$
 $m\angle B + m\angle C = 180^\circ$ $m\angle C + m\angle D = 180^\circ$



Two pairs of parallel sides $AB \parallel CD$, $AD \parallel BC$
 All four sides congruent.
 $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$
 All angles are right angles.

Diagonals bisect each other, are congruent, and are perpendicular $\overline{AC} \cong \overline{BD}$, $\overline{AC} \perp \overline{BD}$.
 Diagonals bisect angles and create 45° angles.
 $m\angle DAC = 45^\circ$, $m\angle CAB = 45^\circ$ ect...

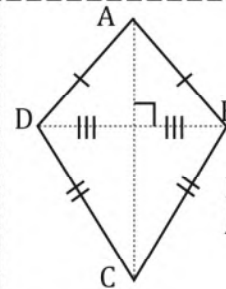


Two pairs of parallel sides $\overline{AB} \parallel \overline{CD}$, $\overline{AD} \parallel \overline{BC}$
 All four sides congruent.
 $\overline{AB} \cong \overline{CD} \cong \overline{AD} \cong \overline{BC}$
 Opposite angles are congruent. $\angle A \cong \angle C$,
 $\angle B \cong \angle D$

Diagonals bisect each other, and are perpendicular $\overline{AC} \perp \overline{BD}$
 Diagonals bisect opposite angles $\angle DAC \cong \angle CAB$
 $\angle ABC \cong \angle DBC$ ect...

$$(n-2)180^\circ$$

where n=the number of sides



Consecutive sides are congruent. $\overline{DA} \cong \overline{AB}$
 $\overline{BC} \cong \overline{CD}$

Diagonals are perpendicular. $\overline{AC} \perp \overline{DB}$ and \overline{AC} bisects \overline{DB}

A Polygon that is equiangular (all angles are equal) and equilateral (all sides are equal).

always equals 360°

One Interior Angle of a
Regular Polygon

One Exterior Angle
of a Regular Polygon

Pentagon

Hexagon

Heptagon

Octagon

Nonagon

Decagon

Dodecagon

N-Gon

$$\frac{(n-2)180^\circ}{n}$$

where n=the number of sides

$$\frac{360^\circ}{n}$$

where n=the number of sides

a polygon with 6 sides

a polygon with 5 sides

a polygon with 8 sides

a polygon with 7 sides

a polygon with 10 sides

a polygon with 9 sides

a polygon with n sides

a polygon with 12 sides

Similar

Ratio of Similarity

Triangle Similarity
Theorems/Properties

$r:r^2:r^3$

Translation

Rotation

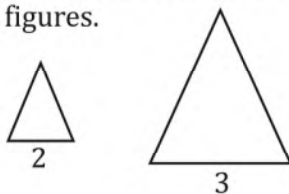
Reflection

Dilation

Circle

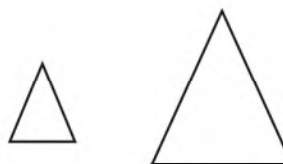
Radius

The ratio of the lengths of the sides of two similar figures.



The ratio of similarity is $2/3$ for these triangles.

Two shapes that are the same shape, but different sizes.



The ratio of the area of two figures is the similarity ratio squared. The ratio of the volume of two figures is the similarity ratio cubed.

SSS Side, Side, Side
SAS Side, Angle, Side
AA Angle, Angle
AAA Angle, Angle, Angle

Each S is an equal ratio of two sides.

A transformation in which the figure is turned about (around) a point.



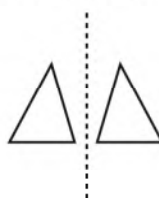
A transformation in which the figure is turned without changing its orientation or size.



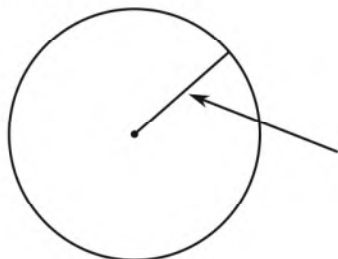
A transformation in which the figure is enlarged but maintains its shape.



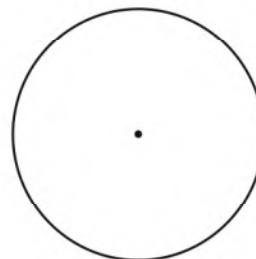
A transformation in which the figure is transformed into its mirror image.



A segment that extends from a circle's center to its circumference.



The set of points equidistant from a given point.



Diameter

Chord

Circumference

Arc

Major Arc

Minor Arc

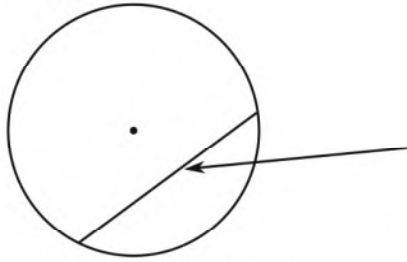
Central Angle

Inscribed Angle

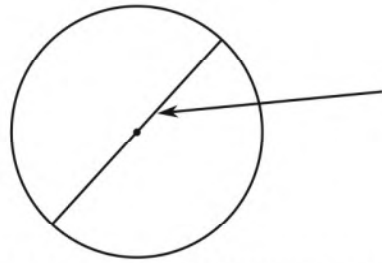
Tangent Line

Point of Tangency

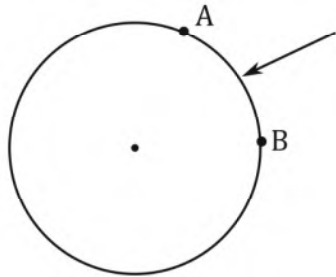
A segment that has its endpoints on the circumference of a circle.



A chord that passes through the center of the circle.

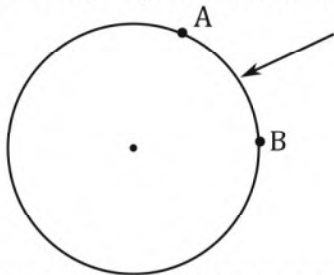


A part of the circumference of a circle.

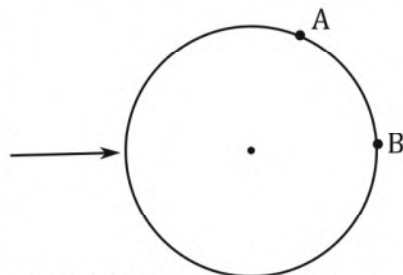


The distance around a circle (the perimeter of a circle).

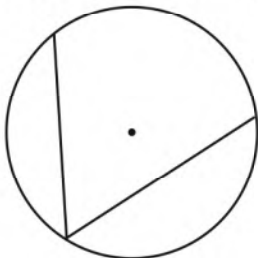
The short arc around the circumference of a circle between two points on the circumference.



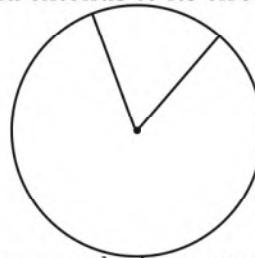
The long arc around the circumference of a circle between two points on the circumference.



An angle that has its vertex on the circumference of a circle and extends across the circle.



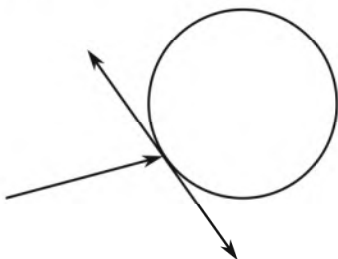
An angle that has its vertex on the center of a circle and extends to its circumference.



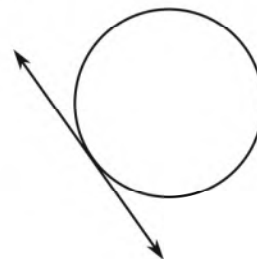
Its measure is half the measure of the included arc.

Its measure equals the measure of the included arc.

The point where a tangent line intercepts a circle.



A line on the exterior of the circle that intercepts the circle in only one point.



Intersecting Chord Theorem

Intersecting Tangents
Theorem

Diameter/Chord Theorem

Tangent/Radius Theorem

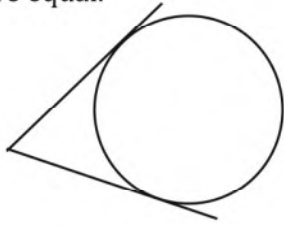
Sector

Semi Circle

Midpoint Formula

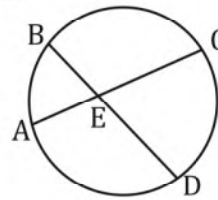
Distance Formula

If two tangents intersect their lengths from the point of intersection to their points of tangency are equal.



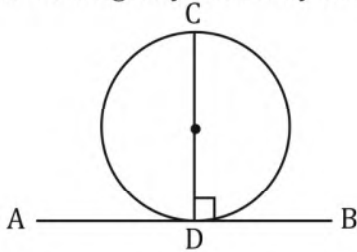
$$AB=AC$$

If two chords intersect inside a circle the products of the pieces of the two segments are equal.

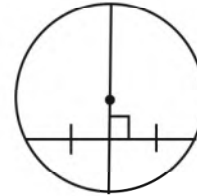


$$(AE)(EC)=(BE)(ED)$$

Iff a tangent line and a radius intersect at the point of tangency then they are perpendicular.

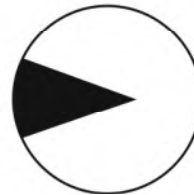


Iff a diameter is perpendicular to a chord then the diameter bisects the chord.



half of a circle

A portion of the area of a circle enclosed by two radii and the included arc.



$$D=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$$

$$MP=\left(\frac{x_1+x_2}{2}, \frac{y_2+y_1}{2}\right)$$