


# GEOMETRY VOCABULARY

acute angle	An angle that has measure less than $90^\circ$ .
acute triangle	A triangle for which all interior angles are acute.
adjacent	Next to; adjoining.
adjacent angles	Two angles in a plane which share a common vertex and a common side but do not overlap.
algorithm	A set of instructions used to solve a problem or obtain a desired result.
alternate exterior angles	Two exterior angles on opposite sides of a transversal which lie on different parallel lines and are congruent.
alternate interior angles	Two interior angles on opposite sides of a transversal which lie on different parallel lines and are congruent.
altitude	The shortest distance between the base of a geometric figure and its top.
angle	Two rays sharing a common endpoint.
angle bisector	A line or ray that divides an angle in half.
angle of depression	The angle formed by the line of sight and the horizontal plane for an object below the horizontal.
angle of elevation	The angle formed by the line of sight and the horizontal plane for an object above the horizontal.
antecedent	
apex	The vertex at the tip of a cone or pyramid.
apothem (with diagram)	The line segment from the center of a regular polygon to the midpoint of a side, or the length of this segment.
arc length	The distance between an arc's endpoints along the path of the circle.
area	A quantity that expresses the extent of a two-dimensional surface or shape in the plane.
base	The bottom of a figure.
bisect	Cut into two congruent halves.
bisector	A line segment, line, or plane that divides a geometric figure into two congruent halves.
capacity	Maximum amount that can be contained by an object.
center	The point inside the circle, from which all points on the circle are the same distance.
center line	Divides the central body surface in half.
centroid	For a triangle, this is the point at which the three medians intersect.
chord	A line segment on the interior of a circle.
circle	The locus of all points that are a fixed distance from a given point.
circumcenter	The point of intersection of the perpendicular bisectors of the sides.
circumference	The distance around the the outside of a circle.
circumscribed	A circle that is either inside or outside of an object.
collinear	Points lying on the same line.
complementary angles	Two acute angles that add up to $90^\circ$ .

compass	A drawing tool used to draw circles at different radii
composition (transformations)	Combining two functions by substituting one function's formula in place of each $x$ in the other function's formula.
concave	Curved like the inner surface of a sphere.
concentric	Similar geometric figures that share a common center.
cone	The surface of a conic solid whose base is a circle.
congruent	Exactly equal in size and shape.
conjecture	An educated guess or opinion; a hypothesis.
construction (geometric)	A precise way of drawing which allows only 2 tools: the straightedge and the compass
contraction	A transformation in which a figure grows smaller.
contrapositive	Switching the hypothesis and conclusion of a conditional statement and negating both.
converse	Switching the hypothesis and conclusion of a conditional statement.
convex	Curved like the outer surface of a sphere.
coordinate	A number that identifies a point on a number line, plane or in space.
coordinate plane	The plane formed by a horizontal axis and a vertical axis, often labeled the $x$ -axis and $y$ -axis, respectively.
coplanar	Lying in the same plane.
correspondence	An alternative term for a relation between two sets.
corresponding angles	Any pair of angles in similar locations with respect to a transversal.
cosine/cos (trigonometry)	The ratio of the length of the side adjacent to an acute angle to the length of the hypotenuse.
counterexample	An example which disproves a proposition.
cross section	The intersection of a figure in 2-dimensional space with a line, or of a body in 3-dimensional space with a plane.
cube	A regular polyhedron for which all faces are squares.
curve	An object similar to a line but which is not required to be straight.
cylinder	A three-dimensional geometric figure with parallel congruent bases. Usually circles.
decagon	A polygon with ten sides.
deductive reasoning	Is reasoning which constructs or evaluates deductive arguments.
degree	Unit used to measure angles
derivative	A function which gives the slope of a curve; that is, the slope of the line tangent to a function.
diagonal	A segment in a polygon whose endpoints are 2 nonconsecutive vertices.
diameter	A line segment between two points on the circle or sphere which passes through the center.
dilation	A transformation in which a figure grows larger.
dimension	The minimum number of coordinates needed to specify each point within it.
disprove	To prove to be false, invalid, or in error.
dodecagon	A polygon with 12 sides.
dodecahedron	A polyhedron with 12 faces. A regular dodecahedron has faces that are all regular pentagons.

edge	A line formed by two surfaces coming together.
endpoint	A point used to define a line segment or ray.
enneagon	A nine-sided polygon.
equiangular	Having angles of the same measure.
equidistant	Any two points on a circle are equal distance from the center.
equilateral	A geometric figure having all sides equal.
equivalent	Having virtually identical or corresponding parts.
expansion	The consistent growth of an object in all planes.
exterior angle	The angle between any side of a polygon and an extended adjacent side.
extraneous solutions	A solution of a simplified version of an equation that does not satisfy the original equation.
extrapolation	To estimate a value of a variable outside a known range from values within a known range.
frustum	The part of a solid, such as a cone or pyramid, between two parallel planes cutting the solid
geometric construction	 construction that employs only straightedge and compasses or is carried out by drawing only straight lines and circles.
hemisphere	Half of a sphere.
heptagon	A polygon with seven sides.
hexagon	A polygon with six sides.
hexahedron	Any polyhedron with six faces, all of which are quadrilaterals.
hypotenuse	The side of a right triangle opposite the right angle.
hypothesis	The part of a conditional after <i>If</i> and before <i>then</i> .
icosahedron	A polyhedron with 20 faces.
incenter	The center a polygon's inscribed circle.
included angle	The angle made by two sides of a polygon.
included side	The side between two angles in a polygon.
inductive reasoning	Reaching a conclusion on the basis of a number of observations that form a pattern.
inscribed	To draw one figure within another figure so that every vertex of the enclosed figure touches the outer figure.
inscribed angle	Is formed when two secant lines of a circle intersect on the circle.
interior angle	The angle formed inside a polygon by two adjacent sides.
intersect	To cut across or through.
invalid	Falsely based or reasoned.
isosceles trapezoid	A trapezoid with base angles that are the same.
isosceles triangle	A triangle with two sides that are the same length.
kite	A quadrilateral with two pairs of adjacent sides that are congruent.
lateral (surface area)	The surface area of the lateral surfaces of a solid.
leg	Each of the two sides of the right angle in a right triangle.

line of reflection	A line over which two figures are mirror images of each other.
line segment	Part of a line defined by two endpoints.
magnitude	The amount of a quantity. Magnitude is never negative.
median (triangle)	A line segment drawn from one vertex to the midpoint of the opposite side.
midpoint	The point halfway between two given points on a line.
minor arc	The shorter of the two arcs between two points on a circle.
minute	A unit of angle measure equal to one-sixtieth of a degree.
nonagon	A polygon with nine sides.
noncollinear	Points that do not all lie on a single line.
oblique	Tilted at an angle; neither vertical nor horizontal.
obtuse angle	An angle that has measure more than $90^\circ$ and less than $180^\circ$ .
obtuse triangle	A triangle whose largest angle measures greater than 90 degrees.
octagon	A polygon with eight sides.
octahedron	A polyhedron with eight faces.
opposite	The side of a right triangle across from the angle used in the trigonometry function.
opposite faces	Faces that lie in parallel planes.
opposite rays	Two rays with a common endpoint that form a line
orientation	In an image change, the direction in which the points named go either clockwise or counterclockwise for figures.
parallel	Two or more planes that do not intersect.
parallelepiped	A polyhedron with six faces, all of which are parallelograms.
parallelogram	A quadrilateral with two pairs of parallel sides.
pentadecagon	A 15-sided polygon
pentagon	A five-sided polygon
perimeter	The distance around the outside of a plane figure.
permutation	A selection of objects in which the order of the objects matters.
perpendicular	Forming a 90 degree angle.
pi	Expresses the ratio of the circumference to the diameter of a circle and appears as a constant in many mathematical expressions.
plane	A flat surface extending in all directions.
polygon	A closed plane figure bounded by three or more line segments.
polyhedron	A solid bounded by polygons.
postulate	A statement assumed to be true without proof
prism	A solid with parallel congruent bases which are both polygons.
proof	A sequence of justified conclusions used to prove the validity of an if-then statement.

protractor	A tool used to measure angles
prove	The goal of a proof.
pyramid	A polyhedron with a polygonal base and lateral faces that taper to an apex.
pythagorean theorem	An equation relating the lengths of the sides of a right triangle.
quadrangle	A polygon with four sides.
quadrilateral	A polygon with four sides.
radian	A unit of angular measure equal to the angle subtended at the center of a circle by an arc equal in length to the radius of the circle
radii	Plural form of radius
radius	A line segment that joins the center of a circle with any point on its circumference.
ray	A part of a line starting at a particular point and extending infinitely in one direction.
rectangle	A quadrilateral with four congruent angles.
rectangular prism	A 3-dimensional object which has six faces that are rectangles.
reflections	A transformation in which a geometric figure is reflected across a line, creating a mirror image.
reflex polygon	A polygon for which 2 or more of its sides intersect each other
rhombus	A parallelogram with four congruent sides.
right angle	A $90^\circ$ angle.
right triangle	A triangle which has a right interior angle.
scale factor	The ratio of any two corresponding lengths in two similar geometric figures.
scalene triangle	A triangle for which all three sides have different lengths.
secant	The reciprocal of the cosine function.
secant to a circle	A line that intersects the circle in two points
sector	Part of a circle containing its center and an arc.
septagon	A seven-sided polygon
sine/sin (trigonometry)	In a right triangle, the ratio of the length of the side opposite an acute angle to the length of the hypotenuse.
skew	Neither parallel nor intersecting. Used of straight lines in space.
sphere	A three dimensional solid consisting of all points equidistant from a given point.
square	A rectangle with all four sides of equal length.
straight angle	A $180^\circ$ angle.
supplementary angles	Two angles whose measures, when added together, equal 180 degrees
tangent (circle)	Line that touches a circle/curve at one point.
tangent/tan (trigonometry)	An acute angle in a right triangle that is the ratio of the length of the side opposite the angle to the length of the side adjacent to the angle.
tetragon	A four-sided polygon.
tetrahedron	A polyhedron with four triangular faces, or a pyramid with a triangular base.

theorem	A mathematical statement or proposition derived from previous accepted results.
transformation	A polyhedron with four triangular faces, or a pyramid with a triangular base.
transversal	A line that cuts across a set of lines or the sides of a plane figure.
trapezium	A quadrilateral with no parallel sides.
trapezoid	A quadrilateral which has a pair of opposite sides which are parallel.
triangle	A polygon with three sides.
tridecagon	A 13-sided polygon
trigon	A three-sided polygon
undecagon	An eleven-sided polygon.
vectors	A quantity, drawn as an arrow, with both direction and magnitude.
vertex	A corner point of a geometric figure.
vertical	A line that is straight up and down.
vertical angles	Angles opposite one another at the intersection of two lines. Vertical angles are congruent.
volume	The total amount of space enclosed in a solid.
zero slope	The slope of a horizontal line.