A–B

acute angle - an angle with a measure greater than 0° and less than 90°

acute triangle - a triangle in which all three angles are acute angles

adjacent angles - angles that share a common ray and have the same origin

altitude - the perpendicular distance from a vertex to the opposite side of a polygon or from the base to the apex of a cone or pyramid

angle - a geometric figure formed by two rays joined at their origins

apex - the point farthest from the base in a geometric figure

apothem - the distance from the center of a regular polygon to the midpoint of any side

area - the measure of the space covered by a plane shape, expressed in square units

axiom - a rule or a statement that is accepted as true without proof; also called *postulate*, especially in geometry

base - 1. a particular side or face of a geometric figure used to calculate area or volume; 2. a number that is raised to a power; 3. the number that is the foundation in a given number system; for example, the decimal system describes numbers in relation to powers of 10, such as 100, 101, 102, and so on

bisect - to divide into two equal parts

bisector - a line or line segment that divides another figure into two equal parts

C

Cartesian coordinate system - a system of representing points in space by using axes and coordinates, named for René Descartes

chord - a straight line segment drawn between two points on the circumference of a circle

circumference - the distance around the outside edge of a circle

collinear - lying on the same line

Commutative Property - a property that states that the order in which numbers are added or multiplied does not affect the result

complementary angles - two angles with measures that add up to 90 degrees

conclusion - in formal logic, the final statement based on the given premises

conditional - in formal logic, a statement linking a premise and a conclusion

cone - a solid with a circular base and a curved surface that rises to a point

congruent - having exactly the same size and shape

constant - a fixed, unchanging value

converse - the reverse of a postulate or theorem

coplanar - lying in the same plane

cosecant - in trigonometry, the reciprocal of the sine

cosine - in trigonometry, the ratio of the length of the side adjacent to the given angle and the length of the hypotenuse in a right triangle

cotangent - in trigonometry, the reciprocal of the tangent

CPCTC - "corresponding parts of congruent triangles are congruent"

cube - a solid with six congruent square faces that meet at right angles

cylinder - a solid with one curved surface and two congruent circular bases

D–E

degree - a unit of measure for angles; 1/360th of a circle

diameter - a straight line passing through the center of a circle and touching both sides

dilation - a transformation in which size is changed but not shape or orientation

dimension - a measurement in a particular direction (length, width, height, depth)

dodecagon - polygon with twelve sides

ellipse - a regular oval created by moving a point around two foci

empty set - a set having no elements; also called *null set*

equiangular triangle - a triangle having angles that are all congruent

equilateral triangle - a triangle having sides that are all congruent

exterior angle - the angle formed outside a polygon when one side is extended; one of the angles outside parallel lines when they are crossed by a transversal

F–H

face - one of the flat surfaces of a solid

finite - able to be counted or measured; limited

formal logic - the branch of logic concerned exclusively with the principles of deductive reasoning

formula - a mathematical expression that shows a relationship, often used to solve a problem

height - the perpendicular distance from the base to the top of a figure

hexagon - polygon with six sides

hypotenuse - the side opposite the right angle in a right triangle

I–L

infinite - without end; unable to be counted or measured

inscribe - to draw one plane shape inside another one, touching as many points as possible

interior angle - angle within a polygon; angle within two parallel lines that are crossed by a transversal

intersection - the place where geometric figures meet; the set containing the elements that two or more sets have in common

inverse - opposite or reverse

inverse trigonometric function - a function expressed as the ratio of the lengths of two of the sides of a right triangle containing the given angle (cosecant, secant, and cotangent, which are the reciprocals of sine, cosine, and tangent)

irrational numbers - numbers that cannot be written as fractions and form non-repeating, non-terminating decimals

isosceles triangle - triangle with two congruent sides

latitude - imaginary lines that measure distance on the earth north or south from the Equator

line - in geometry, a set of connected points that extends infinitely in two directions

line segment - a section of a line bounded by two endpoints

longitude - imaginary lines that measure distance on the earth east and west from the Prime Meridian

M–O

midpoint - the point exactly in the center of a line segment

null set - a set having no elements; also called *empty set*

obtuse angle - an angle with a measure greater than 90° and less than 180°

obtuse triangle - triangle having one angle with a measure greater than 90° and less than 180°

octagon - polygon with eight sides

origin - the endpoint of a ray; on a coordinate grid, the point at the intersection of the axes, generally identified by the ordered pair (0, 0)

P

parallel lines - lines in the same plane that do not intersect

parallelogram - a quadrilateral with opposite sides that are parallel and congruent and opposite angles that are congruent

pentagon - polygon with five sides

perimeter - the distance around the outside edge of a plane shape

perpendicular bisector - a line or line segment that is perpendicular to another line segment through its midpoint

perpendicular lines - lines that form right angles when they intersect

pi - the Greek letter π, which represents an irrational number with an approximate value of 22/7 or 3.14

plane - a flat, two-dimensional surface that extends infinitely in all directions

plane geometry - the study of figures that all lie in one plane

point - a defined position in space that has no dimensions; represented with a dot

polygon - a closed plane shape having three or more straight sides that do not cross

postulate - in logic, a rule or statement that is accepted as true without proof

prism - a solid with two identical, parallel polygon bases; all other faces are parallelograms

protractor - a device used to measure the number of degrees in an angle

proper fraction - a fraction with a numerator less than its denominator

proportion - two ratios that are equal to each other

pyramid - a solid with a polygonal base and triangular faces that rise to a point

Pythagorean theorem - states that the square of the length of the hypotenuse of a right triangle is equal to the sum of the squares of the lengths of the other sides

Q–R

quadrilateral - a polygon with four sides

radical - an expression containing a root

radius - the distance from the center of a circle to its edge; in a regular polygon, the distance from the center to any vertex; in a sphere, the distance from the center to any point on the surface; plural is *radii*

ratio - the relationship between two values; can be written in fractional form

rational numbers - numbers that can be written as ratios or fractions, including decimals

ray - a geometric figure that starts at a definite point (called the origin) and extends infinitely in one direction

rectangle - a quadrilateral with two pairs of opposite parallel sides and four right angles

rectangular solid - a solid with six rectangular faces that meet at right angles

reflection - a transformation in which a figure is flipped over a line to create a mirror image

reflex angle - an angle that has a measure between 180° and 360°

Reflexive Property - a property that states that any number is equal to itself

regular polygon - a polygon in which all sides and angles are congruent

remote interior angle - the interior angles of a triangle that are not adjacent to a given exterior angle

rhombus - a quadrilateral with four congruent sides

right angle - an angle measuring 90°

right triangle - a triangle with one right angle

rotation - a transformation in which a figure is moved around a given point

S

scalene triangle - a triangle with no congruent sides

secant - 1. a line that intersects a circle at two points; 2. in trigonometry, the reciprocal of the cosine

sector - the plane figure enclosed by two radii of a circle or ellipse and the arc between them

set - a collection of items

similar - having the same shape but different sizes

sine - in trigonometry, the ratio of the length of the side opposite to the given angle and the length of the hypotenuse in a right triangle

slant height - the height of a triangle forming a face of a pyramid

sphere - solid in which all points are equidistant from a given center

square root - a number that can be multiplied by itself to form a specified product

straight angle - an angle with a measure of 180°

subset - a part of a given set

supplementary angles - two angles with measures that add up to 180°

surface area - the sum of the areas of all the faces of a solid

Symmetric Property - the property that states, if A = B, then B = A

symmetry - having congruent parts facing each other across an axis, with one the reverse of the other

T–U

tangent - 1. a straight line or plane that touches a curve at a single point but does not intersect the curve; 2. in trigonometry, the ratio of the length of the opposite side to the length of the adjacent side of a right triangle

theorem - a proposition that has been proved to be true using postulates that are already known

transformation - the movement of a figure in a coordinate plane

transformational geometry - the study of geometry that focuses on the transformation of figures

Transitive Property - the property that states that, if A = B and B = C, then A = C

translation - the movement of a figure across a given distance without changing its size or orientation

trapezoid - a four-sided polygon with a set of parallel sides

trigonometric function - a function expressed as the ratio of the lengths of two of the sides of a right triangle containing the given angle (sine, cosine, and tangent)

union - the combined elements from two or more sets

V–Z

Venn diagram - a graphic organizer used to show the relationships between sets

vertex - the endpoint shared by two rays, line segments, or edges; plural is vertices

vertical angles - the angles opposite each other when two lines intersect

volume - the number of cubic units that can be contained in a solid