MATHEMATICS GLOSSARY
ALGEBRA 1 EOC AND GEOMETRY EOC

The terms defined in this glossary pertain to the NGSSS in mathematics for EOC assessments in Algebra 1 and Geometry. Included are the glossary terms from Grades 3 through 8.

Absolute value—a number's distance from zero (0) on a number line. Distance is expressed as a positive value (e.g., $|3| = 3$ and $|-3| = 3$).

Acute angle—an angle that measures less than 90° and greater than 0°.

Addend—any number being added.

Additive identity—the number zero (0). When zero (0) is added to another number, the sum is the number itself (e.g., $5 + 0 = 5$).

Additive inverse property—a number and its additive inverse have a sum of zero (0) (e.g., in the equation $3 + -3 = 0$, 3 and -3 are additive inverses of each other).

Algebraic equation (inequality)—a mathematical sentence containing variables in which two expressions are connected by an equality (inequality) symbol. See also equation and inequality.

Algebraic expression—an expression containing numbers and variables (e.g., $7x$), and operations that involve numbers and variables (e.g., $2x + y$ or $3a^2 - 4b + 2$). Algebraic expressions do not contain equality or inequality symbols.

Algebraic order of operations—the order of performing computations is parentheses first, then exponents, followed by multiplication and/or division (as read from left to right), then addition and/or subtraction (as read from left to right). For example:

$= 5 + (12 - 2) \div 2 - 3 \times 2$

$= 5 + 10 \div 2 - 3 \times 2$

$= 5 + 5 - 6$

$= 10 - 6$

$= 4$

Algebraic rule—a mathematical expression that contains variables and describes a pattern or relationship.

Altitude—the perpendicular distance from a vertex in a polygon to its opposite side.

Angle—two rays extending from a common end point called the vertex. Angles are measured in degrees.

Angle of depression—an angle defined by a horizontal ray and a ray extending from the common endpoint to a point below the horizontal ray.

Angle of elevation—an angle defined by a horizontal ray and a ray extending from the common endpoint to a point above the horizontal ray.

Apothem—the perpendicular line segment from the center of a regular polygon to the midpoint of any of its sides. The length of the apothem is usually denoted as *a*.

Area—the measure, in square units, of the interior region of a closed two-dimensional figure (e.g., a rectangle with sides of 4 units by 6 units has an area of 24 square units).

Arc—a continuous part of a circle. The measure of an arc is the measure of the angle formed by two radii with endpoints at the endpoints of the arc.

Associative property—the way in which three or more numbers are grouped for addition or multiplication does not change their sum or product, respectively [e.g., (5 + 6) + 9 = 5 + (6 + 9) or (2 × 3) × 8 = 2 × (3 × 8)].

Axiom—see postulate.

Axis (of a graph)—a horizontal or vertical number line used in a coordinate plane system. Plural: axes.

Base (algebraic)—the number used as a factor in exponential form. For example, 2^3 is the exponential form of 2 × 2 × 2. The numeral two (2) is called the base, and the numeral three (3) is called the exponent.

Base (geometric)—the segment or face of a geometric figure that is perpendicular to the height.

Binomial—a polynomial with two terms. In $2x + 5$, the terms are $2x$ and 5.

Break—a zigzag on the *x*- or *y*-axis in a line or bar graph indicating that the data being displayed do not include all of the values that exist on the number line used. Also called a squiggle.

Capacity—the amount of space that can be filled in a container. Both capacity and volume are used to measure three-dimensional spaces; however, capacity usually refers to fluid measures, whereas volume is described as cubic units.

Central angle—an angle that has its vertex at the center of a circle, with radii as its sides.

Chart—a data display that presents information in columns and rows.

Chord—a line segment with endpoints on the circle.

Circumference—the distance around a circle.

Circumscribed—a descriptor for a geometric figure that is drawn around and encloses (while certain points are touching) another geometric figure.

Closed figure—a two-dimensional figure that divides the plane into two parts—the part inside the figure and the part outside the figure (e.g., circles, squares, rectangles).

Coefficient—the number that multiplies the variable(s) in an algebraic expression (e.g., $4xy$). If no number is specified, the coefficient is 1.

Commutative property—the order in which two numbers are added or multiplied does not change their sum or product, respectively (e.g., 2 + 3 = 3 + 2, or 4 × 7 = 7 × 4).

Complement of set A—denoted by A' or ~A, the set of all elements in the universal set that are not in A.

Complementary angles—two angles with measures the sum of which is exactly 90°.

Composite number—a whole number that has more than two factors.

Compound inequality—two inequalities that are combined into one statement by the words *and* or *or*.

Concave polygon—a polygon with one or more diagonals that have points outside the polygon.

Concentric circles—two or more coplanar circles that share the same center.

Conclusion—the "then" part of a conditional statement.

Conditional statement—a logical statement consisting of two parts, a hypothesis and a conclusion.

Congruent—having the same size and shape.

Conjecture—an unproven statement based on observations.

Contrapositive—the statement formed by negating and reversing the hypothesis and conclusion of a conditional statement. A conditional and its contrapositive always have the same truth value.

Converse——the statement formed by reversing the hypothesis and conclusion of a conditional statement.

Convex polygon—a polygon with each interior angle measuring less than 180º. All diagonals of a convex polygon lie inside the polygon.

Coordinate grid or plane—a two-dimensional network of horizontal and vertical lines that are parallel and evenly-spaced; especially designed for locating points, displaying data, or drawing maps. Also called a rectangular coordinate system.

Coordinates—numbers that correspond to points on a coordinate plane in the form (x, y), or a number that corresponds to a point on a number line.

Cosine (cos)—in a right triangle, the ratio of the length of the leg adjacent to the reference angle to the length of the hypotenuse.

Cross product of sets (discrete mathematics)—the set of all pairs wherein the first element is a member of the set A and the second element is a member of the set B [e.g., let A = {1, 2} and B = {x, y, z}. Then A × B = {(1, x), (1, y), (1, z), (2, x), (2, y), (2, z)}].

Cube—a solid figure with six congruent square faces.

Customary units—the units of measure developed and used in the United States.

- Customary units for length are inches, feet, yards, and miles.
- Customary units for weight are ounces, pounds, and tons.
- Customary units for volume are cubic inches, cubic feet, and cubic yards.
- Customary units for capacity are fluid ounces, cups, pints, quarts, and gallons.

Cylinder—a three-dimensional figure with two parallel bases that are congruent circles.

Decimal number—any number written with a decimal point in the number. A decimal number falls between two whole numbers (e.g., 1.5 falls between 1 and 2). Decimal numbers smaller than 1 are sometimes called decimal fractions (e.g., five-tenths is written 0.5).

Deductive reasoning—applying a general rule to a specific case.

Degree—a unit of measure for angles or temperature (º).

Diagonal—a line segment that joins two nonadjacent vertices of a polygon.

Diameter—a line segment from any point on a circle or sphere passing through the center to another point on the circle or sphere.

Difference—a number that is the result of subtraction.

Dilation—a proportional increase or decrease in size in all dimensions.

Dimension—a measure in one direction (e.g., length, width, or height).

Direct measure—the measure of an object obtained by using measuring devices, either standard devices of the customary or metric systems, or nonstandard devices such as a paper clip or pencil.

Distributive property—the product of a number and the sum or difference of two numbers is equal to the sum or difference of the two products [e.g., $x(a + b) = ax + bx$].

Dividend—a quantity that is to be divided.

Divisible—capable of being divided by another number without a remainder.

Divisor—the number by which another number is divided.

Dodecahedron—a polyhedron with twelve faces.

Domain—the complete set of possible values of the independent variable in a function.

Edge—a line segment where two faces of a polyhedron meet.

Element—a number, letter, point, line, or any other object contained in a set.

Elevation—the height or altitude above sea level.

Enlargement—a dilation in which the scale factor, or size change, is greater than one.

Equation—a mathematical sentence in which two expressions are connected by an equality symbol. See also algebraic equation (inequality).

Equilateral triangle—a triangle with three congruent sides.

Equivalent expressions—expressions that have the same value but are presented in a different format using the properties of numbers.

Equivalent forms of a number—the same number expressed in different forms (e.g., $\frac{3}{4}$, 0.75, 75%).

Estimation—the use of rounding and/or other strategies to determine a reasonably accurate approximation, without calculating an exact answer (e.g., clustering, front-end estimating, grouping, etc.).

Evaluate an algebraic expression—substitute numbers for the variables and follow the algebraic order of operations to find the numerical value of the expression.

Exponent (exponential form)—the number of times the base occurs as a factor (e.g., 2^3 is the exponential form of 2 × 2 × 2). The numeral two (2) is called the base, and the numeral three (3) is called the exponent.

Expression—a collection of numbers, symbols, and/or operation signs that stands for a number.

Extraneous information—information that is not necessary to solving the problem.

Extrapolate—to estimate or infer a value or quantity beyond the known range of data.

Face—one of the plane surfaces bounding a three-dimensional figure; a side.

Factor—a number or expression that divides evenly into another number [e.g., 1, 2, 4, 5, 10, and 20 are factors of 20 and (x + 1) is one of the factors of (x^2 - 1)].

Flip—see reflection.

Flow proof—a convincing argument that uses arrows to show the logical connections between the statements.

Formal proof—a convincing argument containing statements and reasons.

Fraction—any part of a whole (e.g., one-half written in fractional form is $\frac{1}{2}$).

Function (of *x*)—a relation in which each value of x is paired with a unique value of y.

Function table—a table of x- and y-values (ordered pairs) that represents the function, pattern, relationship, or sequence between the two variables.

Geometric mean—the geometric mean between two positive numbers a and b is the positive number x where: $\frac{a}{x} = \frac{x}{b}$.

Great circle—a circle formed when a plane intersects a sphere with its center at the center of the sphere. A great circle divides a sphere into two hemispheres.

Grid—see coordinate grid.

Height—a line segment extending from a vertex or apex of a figure to its base and forming a right angle with the base or plane that contains the base.

Hexahedron—a polyhedron with six faces.

Hinge Theorem—if two sides of one triangle are congruent to two sides of another triangle, and the included angles are not congruent, then the longer third side is opposite the larger included angle.

Hypotenuse—the longest side of a right triangle; the side opposite the right angle.

Hypothesis—the "if " part of a conditional statement. Plural: hypotheses.

Icosahedron—A polyhedron with twenty faces.

Included angle—an angle shared by two specific sides of a polygon.

Included side—a side shared by two specific angles of a polygon.

Indirect proof—a convincing argument in which you assume that what you are trying to prove is false and this assumption leads to a contradiction.

Inequality—a sentence that states one expression is greater than, greater than or equal to, less than, less than or equal to, or not equal to, another expression (e.g., $a \neq 5$ or $x < 7$ or $2y + 3 \geq 11$). See also algebraic inequality.

Inscribed angle—an angle that has a vertex on a circle and sides that contain chords of the circle.

Integers—the numbers in the set {. . . -4, -3, -2, -1, 0, 1, 2, 3, 4 . . .}.

Intercept—the value of a variable when all other variables in the equation equal zero (0). On a graph, the values where a function crosses the axes.

Intersection—the point at which lines or curves meet; the line where planes meet.

Intersection of sets—the intersection of sets A and B is the set of elements of A that are also elements of B. It is denoted by $A \cap B$ and is read "A intersection B."

Inverse—the statement formed by negating both the hypothesis and conclusion of a conditional statement.

Inverse operation—an operation that undoes a previously applied operation (e.g., subtraction is the inverse operation of addition).

Irrational numbers—the set of real numbers that cannot be expressed as a ratio of two integers (e.g., $\sqrt{2}$).

Isosceles triangle—a triangle with two congruent sides and two congruent angles.

Kite—a quadrilateral with two distinct pairs of adjacent, congruent sides.

Labels (for a graph)—the titles given to a graph, the axes of a graph, or the scales on the axes of a graph.

Lateral area—the surface area of a three-dimensional figure that includes only the area of the lateral faces.

Lateral face—a face of a prism or pyramid that is not being used as a base.

Length—a one-dimensional measure that is the measurable property of line segments.

Line—a collection of an infinite number of points in a straight pathway with unlimited length and having no width.

Line of best fit—a line drawn on a scatter plot to estimate the relationship between two sets of data.

Line of reflection—the line over which two figures are mirror images of each other.

Line segment—a portion of a line that consists of two defined endpoints and all the points in between.

Linear equation—an algebraic equation in which the variable quantity or quantities are raised to the zero or the first power and the graph is a straight line [e.g., $20 = 2(w + 4) + 2w$ and $y = 3x + 4$].

Linear inequality—an algebraic inequality in which the variable quantity or quantities are raised to the zero or first power and the graph is a region in which the boundary is the straight line formed by the inequality.

Literal equation—an equation involving two or more variables.

Mass—the amount of matter in an object.

Metric units—the units of measure developed in Europe and used in most of the world. Like the decimal system, the metric system uses the base 10.

- Metric units for length are millimeters, centimeters, meters, and kilometers.
- Metric units for mass are milligrams, grams, and kilograms.
- Metric units for volume are cubic millimeters, cubic centimeters, and cubic meters.
- Metric units for capacity are milliliters, centiliters, liters, and kiloliters.

Midpoint of a line segment—the point on a line segment that is equidistant from the endpoints.

Monomial—an expression that is a number, a variable, or a product of a number and one or more variables.

Multiples—the numbers that result from multiplying a given whole number by the set of whole numbers (e.g., the multiples of 15 are 0, 15, 30, 45, 60, 75, etc.).

Multiplicative identity—the number one (1). The product of a number and the multiplicative identity is the number itself (e.g., $5 \times 1 = 5$).

Multiplicative inverse—any two numbers with a product of 1 (e.g., 4 and $\frac{1}{4}$). Zero (0) has no multiplicative inverse. Also called a reciprocal.

Natural numbers (counting numbers)—the numbers in the set {1, 2, 3, 4, 5 . . .}. Also called counting numbers.

Negation (~)—the negative of a statement.

Negative exponent—used to designate the reciprocal of a number to the absolute value of the exponent. Also used in scientific notation to designate a number smaller than one (1). For example, 3.45×10^{-2} equals 0.0345.

Net—a two-dimensional diagram that can be folded or made into a three-dimensional figure.

Nonstandard units of measure—objects such as blocks, paper clips, crayons, or pencils that can be used to obtain a measure.

Number line—a line on which ordered numbers can be written or visualized.

Oblique—a relationship between lines and/or plane figures that is not perpendicular or parallel.

Oblique prism—a prism in which the lateral edges are not perpendicular to the bases.

Obtuse angle—an angle with a measure of more than 90° but less than 180°.

Octahedron—a polyhedron with eight faces.

Operation—any mathematical process, such as addition, subtraction, multiplication, division, raising to a power, or finding the square root.

Operational shortcut—a method having fewer arithmetic calculations.

Ordered pair—the location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the *x*-axis and *y*-axis, respectively [e.g., (*x*, *y*) or (3, -4)].

Organized data—data arranged in a display that is meaningful and that assists in the interpretation of the data.

Origin—the point of intersection of the *x*- and *y*-axes in a rectangular coordinate system, where the *x*-coordinate and *y*-coordinate are both zero (0).

Paragraph proof—a convincing argument that uses statements and reasons connected in sentences.

Parallel lines—two lines in the same plane that are a constant distance apart. Parallel lines have equal slopes.

Parallelogram—a quadrilateral in which both pairs of opposite sides are parallel.

Pattern (relationship)—a predictable or prescribed sequence of numbers, objects, etc. Patterns and relationships may be described or presented using manipulatives, tables, graphics (pictures or drawings), or algebraic rules (functions).

Percent—a special-case ratio which compares numbers to 100 (the second term). For example, 25% means the ratio of 25 to 100.

Perimeter—the distance around a polygon.

Perpendicular—lines, line segments, rays, or planes that intersect to form a right angle.

Pi (π)—the symbol designating the ratio of the circumference of a circle to its diameter . It is an irrational number with common approximations of either 3.14 or $\frac{22}{7}$.

Place value—the position of a single digit in a number.

Plane—an infinite, two-dimensional geometric surface defined by three non-linear points or two distinct parallel or intersecting lines.

Plane figure—a two-dimensional figure that lies entirely within a single plane.

Platonic solid—a polyhedron for which the faces are regular congruent polygons with the same number of edges meeting at each vertex. The five Platonic solids are: tetrahedron, hexahedron, octahedron, dodecahedron, and icosahedron.

Point—a specific location in space that has no discernible length or width.

Point-slope form—a form of a linear equation, $y - y_1 = m(x - x_1)$, where m is the slope of the line and (x_1, y_1) is a point on the line.

Polygon—a closed-plane figure, having at least three sides that are line segments and are connected at their endpoints.

Polyhedron—a solid figure bounded by polygons. Plural: polyhedra.

Polynomial—the sum or difference of two or more monomials.

Postulate—a mathematical statement accepted as true without proof. Also called an axiom.

Prime number—any whole number with only two whole-number factors, 1 and itself (e.g., 2, 3, 5, 7, 11, etc.).

Prism—a polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.

Product—the result of multiplying numbers together.

Proof—a logical argument that demonstrates the truth of a given statement. In a formal proof, each step can be justified with a reason; such as a given, a definition, an axiom, or a previously proven property or theorem.

Proportion—a mathematical sentence stating that two ratios are equal.

Proportional—having the same or a constant ratio. Two quantities that have the same ratio are considered directly proportional (e.g., If $y = kx$, then y is said to be directly proportional to x and the constant of proportionality is k). Two quantities in which the products are always the same are considered inversely proportional (e.g., If $xy = k$, then y is said to be inversely proportional to x).

Pyramid—a three-dimensional figure in which the base is a polygon and in which the faces are triangles with a common vertex.

Pythagorean theorem—the square of the hypotenuse (*c*) of a right triangle is equal to the sum of the square of the legs (*a* and *b*), as shown in the equation $c^2 = a^2 + b^2$.

Quadrant—any of the four regions formed by the axes in a rectangular coordinate system.

Quadratic equation—a polynomial equation containing one or more terms in which the variable is raised to the second power but no higher.

Quadrilateral—any polygon with four sides and four angles, including parallelogram, rhombus, rectangle, square, and trapezoid.

Quotient—the result of dividing two numbers.

Radical—an expression that has a root (square root, cube root, etc.) For example, $\sqrt{25}$ is a radical. Any root can be specified by an index number, *b*, in the form $\sqrt[b]{a}$ (e.g., $\sqrt[3]{8}$). A radical without an index number is understood to be a square root.

Radical equation—an equation that contains a radical.

Radical sign—the symbol ($\sqrt{\ }$) used before a number to show that the number is a radicand. See also radical.

Radicand—the number that appears within a radical sign (e.g., in $\sqrt{25}$, 25 is the radicand).

Radius—a line segment extending from the center of a circle or sphere to a point on the circle or sphere. Plural: radii.

Range—the complete set of all possible resulting values of the dependent variable of a function.

Rate—a ratio that compares two quantities of different units (e.g., feet per second).

Rate of change—the ratio of change in one quantity to the corresponding change in another quantity.

Ratio—the comparison of two quantities (e.g., the ratio of *a* and *b* is $a:b$ or a/b, where $b \neq 0$).

Rational expression—an algebraic expression that can be written as a fraction for which numerator and denominator are polynomials.

Rational numbers—the set of all numbers that can be expressed as a ratio of two integers.

Rationalize—write an equivalent expression or equation without radicals.

Ray—a portion of a line that begins at a point and goes on indefinitely in one direction.

Real numbers—the set of all rational and irrational numbers.

Real-world problem—a problem that is an application of a real-life situation involving mathematics.

Reciprocal—see multiplicative inverse.

Rectangle—a parallelogram with four right angles.

Rectangular coordinate system—see coordinate grid or plane.

Rectangular prism—a three-dimensional figure (polyhedron) with congruent, rectangular bases and lateral faces that are parallelograms.

Reduction—a dilation in which the scale factor, or size change, is greater than 0 but less than 1.

Reference angle—the acute angle being referred to in a trigonometric ratio.

Reflection—a transformation that produces the mirror image of a geometric figure over a line or point of reflection. A reflection over a line is also called a flip.

Reflexive property of equality—a number or expression is equal to itself (e.g., 7 = 7 or $ab = ab$).

Regular polygon—a polygon that is both equilateral and equiangular.

Regular polyhedron—a solid figure with congruent regular polygons for all faces.

Relation—a set of ordered pairs (x, y).

Rhombus—a parallelogram with four congruent sides. Plural: rhombi.

Right angle—an angle for which the measure is exactly 90°.

Right circular cone—a three-dimensional figure that has a circular base, a vertex not in the plane of the circle, a curved lateral surface, and an altitude that contains the center of the base.

Right circular cylinder—a cylinder in which the bases are parallel circles perpendicular to the side of the cylinder.

Right prism—a prism in which all the lateral faces and edges are perpendicular to the bases.

Right square pyramid—a polyhedron in which one face, the base, is a square and the other faces, the lateral faces, are triangles with a common vertex, which is directly above the center of the base.

Right triangle geometry—finding the measures of missing sides or angles of a right triangle when given the measures of other sides or angles.

Rise—the vertical change on the graph between two points.

Rotation—a transformation of a figure by turning it about a center point or axis. The amount of rotation is usually expressed in the number of degrees (e.g., a 90° rotation). The direction of the rotation is usually expressed as clockwise or counterclockwise. Also called a turn.

Rule—a mathematical expression that describes a pattern or relationship, or a written description of the pattern or relationship.

Run—the horizontal change on a graph between two points.

Scalar drawing (or scale model)—a drawing (or model) that uses lengths in the drawing (or model) that are proportional to the actual image.

Scale—the numeric values, set at fixed intervals, assigned to the axes of a graph.

Scale factor—the constant that is multiplied by the length of each side of a figure to produce

an image that is the same shape as the original figure.

Scalene triangle—a triangle having no congruent sides.

Scientific notation—a shorthand method of writing very large or very small numbers using exponents in which a number is expressed as the product of a power of 10 and a number that is greater than or equal to one (1) and less than 10 (e.g., $7.59 \times 10^5 = 759{,}000$).

Secant of a circle—a line that intersects a circle in two points.

Sector—the region formed by a central angle and an arc.

Sequence—an ordered list of numbers with either a constant difference (arithmetic) or a constant ratio (geometric).

Side—an edge of a polygon (e.g., a triangle has three sides), a face of a polyhedron, or one of the rays that make up an angle.

Similar figures—figures that have corresponding angles that are congruent, and have corresponding sides that are proportional in length.

Similarity—a term describing figures that are the same shape but are not necessarily the same size or in the same position.

Sine (sin)—in a right triangle, the ratio of the length of the leg opposite the reference angle to the length of the hypotenuse.

Slant height—the length of a segment from the vertex to the lateral edge of a right cone; the height of any lateral face of a regular pyramid.

Slide—see translation.

Slope—the ratio of change in the vertical axis (*y*-axis) to change in the horizontal axis (*x*-axis) in the form $\frac{rise}{run}$ or $\frac{\Delta y}{\Delta x}$. Also, the constant, *m*, in the linear equation for the slope-intercept form $y = mx + b$.

Slope-intercept form—a form of a linear equation, $y = mx + b$, where *m* is the slope of the line and *b* is the *y*-intercept.

Solid figures—three-dimensional figures that completely enclose a portion of space (e.g., a rectangular prism, cube, sphere, right circular cylinder, right circular cone, and square pyramid).

Sphere—a three-dimensional figure in which all points on the figure are equidistant from a center point.

Square—a rectangle with four congruent sides; also, a rhombus with four right angles.

Square root—a positive real number that can be multiplied by itself to produce a given number (e.g., the square root of 144 is 12 or $\sqrt{144} = 12$).

Squiggle—see break.

Standard units of measure—accepted measuring devices and units of the customary or metric

system.

Straight angle—an angle that measures exactly 180°.

Subset—a set in which the members are all contained in another set.

Sum—the result of adding numbers together.

Supplementary angles—two angles with measures the sum of which is exactly 180°.

Surface area of a geometric solid—the sum of the areas of the faces and any curved surfaces of the figure that create the geometric solid.

Symbolic representations of numbers—expressions represented by symbols (e.g., circles shaded to represent $\frac{1}{4}$ or variables used to represent quantities).

Symmetry—a term describing the result of a line drawn through the center of a figure such that the two halves of the figure are reflections of each other across the line. When a figure is rotated around a point and fits exactly on itself, the figure has rotational symmetry.

System of linear equations—two or more related linear equations. A system of linear equations can have no common solutions, one common solution, or many common solutions. The solution to a system of equations is an ordered number set that makes all of the equations true.

Table—a data display that organizes information about a topic into categories. See also chart.

Tangent (tan)—in a right triangle, the ratio of the length of the leg opposite the reference angle to the length of the leg adjacent to the given angle.

Tangent to a circle—a line in the plane of the circle that intersects the circle in exactly one point, called the point of tangency.

Term—a number, variable, product, or quotient in an expression. A term is not a sum or difference (e.g., $5x^2 + 6$ has two terms, $5x^2$ and 6).

Tessellation—a covering of a plane without overlaps or gaps using combinations of congruent figures.

Tetrahedron—a polyhedron with four faces.

Theorem—a mathematical statement that can be shown to be true based on postulates, definitions, or other proven theorems.

Three-dimensional figure—a figure having length, height, and width (depth).

Transformation—an operation on a geometric figure by which an image is created. Common transformations include reflections (flips), translations (slides), rotations (turns), and dilations.

Transitive property—when the first element has a particular relationship to a second element that in turn has the same relationship to a third element, the first has this same relationship to the third element (e.g., if $a = b$ and $b = c$, then $a = c$).

Translation—a transformation in which every point in a figure is moved in the same direction and by the same distance. Also called a slide.

Transversal—a line that intersects two or more lines at different points.

Trapezoid—a quadrilateral with exactly one pair of parallel sides.

Trigonometric ratio—the ratio of two sides of a right triangle, e.g., cosine, sine, and tangent.

Turn—see rotation.

Two-column proof—a convincing argument that uses statements and reasons aligned in two columns.

Two-dimensional figure—a figure having length and width.

Union of sets—the union of two sets A and B is the set of elements, which are in A or in B or in both. It is denoted by A U B and is read “A union B.”

Unorganized data—data that are presented in a random manner.

Variable—any symbol, usually a letter, that could represent a number.

Venn diagram—a diagram that shows relationships among sets of objects.

Vertex—the point common to the two rays that form an angle; the point common to any two sides of a polygon; the point common to three or more edges of a polyhedron. Plural: vertices.

Vertical angles—the opposite or non-adjacent angles formed when two lines intersect.

Volume—the amount of space occupied in three dimensions and expressed in cubic units. Both capacity and volume are used to measure empty spaces; however, capacity usually refers to fluid measures, whereas volume is described by cubic units.

Weight—a measure that represents the force of gravity on an object.

Whole numbers—the numbers in the set {0, 1, 2, 3, 4 . . .}.

***x*-axis**—the horizontal number line on a rectangular coordinate system.

***x*-intercept**—the value of *x* at the point where a line or graph intersects the *x*-axis. The value of *y* is zero (0) at this point. Can be expressed as an ordered pair or *x*-intercept equals a value.

***y*-axis**—the vertical number line on a rectangular coordinate system.

***y*-intercept**—the value of *y* at the point where a line or graph intersects the *y*-axis. The value of *x* is zero (0) at this point. Can be expressed as an ordered pair or *y*-intercept equals a value.