**MATH VOCABULARY TERMS**

**Absolute Value**—the distance that a number is from zero on the number line (positive)

**Acute angle**—an angle with a measure less than 90°

**Addends**—any number being added

**Additive Identity Property of Zero**—for any number \( n \), \( n + 0 = n \)

**Additive Identity**—the number zero

**Additive Inverse**—a number whose sum with a given number is 0. Also called opposite

**Adjacent Angles**—two angles that are next to each other and connected by one side of the angles

**Algebraic Expression**—a group of numbers, symbols, and variables that express an operation or a series of operations

**Algorithm**—steps used to find a result...for example: procedure used for adding two numbers

**Alternate Exterior Angles**—angles formed by two lines and a transversal that are on opposite sides of the transversal but not between the two given lines

**Alternate Interior Angles**—angles formed by two lines and a transversal that are between the two given lines on opposite sides of the transversal

**Altitude**—the perpendicular segment from a vertex of a triangle to the opposite side of the triangle. Also called height.

**Angle**—two rays that share an endpoint

**Associative Property of Addition**—the sum stays the same when the grouping of addends is changed; \( a + (b + c) = (a + b) + c \)

**Base**—1) In a power \( x^y \), \( x \). 2) The side of a triangle perpendicular to an altitude or height. 3) The bottom of a box, or rectangular solid. 4) In a trapezoid, one of the parallel sides. 5) In a cylindric solid, one of the plane regions translated to form the solid.

**Binomial**—a polynomial with two terms

**Bisector**—line that divides a unit into two equal parts

**Celsius** —the metric system scale for measuring temperature

**Circumference**—a circle’s perimeter; \( C = \pi d \)

**Commutative Property of Addition**—the sum stays the same when the order of the addends is changed;

\[ a + b = b + a \]

**Complement of an event(probability)**—the event consisting of all outcomes not in the given event

**Complementary Angles**—two angles that have measures with a sum of 90°

**Composite number**—any positive integer exactly divisible by one or more positive integers other than itself and 1

**Congruent Figures**—Figures having the same size and shape. Figures that are the image of each other under a reflection, rotation, translation, or any combination of these are congruent

**Construction**—an accurate image of a figure made using only a straightedge and a compass

**Contraction**—a size change in which the factor \( k \) is nonzero and between –1 and 1

**Corresponding Angles**—any pair of angles in similar locations in relation to a transversal intersecting two lines

**Degree of a polynomial**—the highest power of any term of a polynomial

**Denominator**—in a fraction, the divisor. The number \( b \) in the fraction \( \frac{a}{b} \)

**Diameter**—twice the radius of a circle or sphere; a segment connecting two points on a circle that contains the center of the circle

**Difference**—the amount that remains after one quantity is subtracted from another

**Dilation**—transformation in which an image is enlarged or decreased proportionately from its earlier size

**Dimension**—1) The length or width of a rectangle. 2) The number of rows or the number of columns in an array. 3) The length, width, or height of a box.
**Math Vocabulary Terms**

**Discriminate**—to see and note the differences between two things

**Dividend**—the number in a quotient that is being divided. In the division \( a \div b \), \( a \) is the dividend

**Divisible**—when one number divides evenly into another number

**Edges**—the sides of the faces of a rectangular solid.

**Equation**—a mathematical sentence with an equal sign

**Estimate**—approximate

**Expansion**—a size change with a magnitude whose absolute value is greater than 1

**Exponential form**—a number written as a power

**Expression**—a combination of variables, numbers and symbols

**Evaluating the Expression**—to find the value of a mathematical expression

**Exterior Angles**—angles formed by two lines and a transversal that have no points between the two given lines

**Factor**—1) A number that divides evenly into another number. 2) To find the factors of a particular number.

**Fahrenheit**—temperature scale

**Formula**—a sentence in which one variable is given in terms of other variables and numbers

**Fraction**—a symbol of the form \( \frac{a}{b} \) which represents the quotient when \( a \) is divided by \( b \)

**Function**—a set of ordered pairs in which each first coordinate appears with exactly one second coordinate

**Height**—1) The perpendicular distance from any vertex of a triangle to the side opposite that vertex. 2) The distance between the bases of the trapezoid. 3) The distance between the bases of a cylinder or prism.

**Hypotenuse**—the longest side of a right triangle

**Image**—the result of applying a transformation to a figure

**Impossible event**—an event with a probability of 0

**Independent events**—two events \( A \) and \( B \) are independent events when and only when \( \text{Prob} (A \text{ and } B) = \text{Prob} (A) \cdot \text{Prob} (B) \)

**Inequality**—a mathematical sentence that compares two unequal expressions using one of the symbols \(<, >, \leq, \geq, \text{ or } \neq \).

**Instance**—a particular example of a pattern

**Integers**—a number, which is a whole number or the opposite of a whole number \{…-3,-2,-1,0,1,2,3,…\}

**Interior Angles**—angles formed by two lines and a transversal that have some points between the two given lines

**Irrational number**—a real number that cannot be written as a simple fraction

**Legs of a right triangle**—the sides of a right triangle that are on the sides of the right angle, or the lengths of these sides

**Like Terms**—terms that involve the same variables to the same powers.

**Linear equation**—an equation of the form \( y = ax + b \), forms a straight line, all the variables are to the first power

**Linear pair**—two angles that share a common side and whose non-common sides are opposite rays

**Magnitude**—1) An amount measuring the size of a turn. 2) The distance between a point and its translation image. 3) A size change factor

**Mean**—the sum of the numbers divided by the amount of numbers in a collection (also called average)

**Median**—in a collection of numbers arranged in numerical order, it is the middle number

**Minuend**—in a subtraction problem, the number from which another number is subtracted. In \( a - b \), the minuend is \( a \)

**Mode**—in a collection of data, it is the object that occurs most often

**Monomial**—the product of constants and variables
Multiplicative Inverse—a number whose product with a given number is 1; also called reciprocal

Mutually Exclusive events—events that cannot occur at the same time

Natural Numbers—any of the numbers 1, 2, 3,..., also called the positive integers.

Net—a plane pattern for a three-dimensional figure

Nonlinear equation—containing a variable with an exponent other than one

Numerator—in a fraction the dividend.

Obtuse angle—an angle whose measure is between $90^\circ$ and $180^\circ$.

Number a in the fraction $\frac{a}{b}$.

Opposite of Opposites Property—for any number n, - (-n) = n

Ordered pair—a pair of numbers or objects (x,y) in which the first number x is designated to be the first coordinate and the second number y is designated to be the second coordinate

Origin—the point (0,0) in a coordinate graph

Outcome—a possible result of an experiment

Parallel—always the same distance apart

Parallel lines—two or more lines that do not intersect

Pattern—a general idea for which there are many examples

Percent—a number written using the percent sign %. This indicates that the number preceding it should be multiplied by 0.01 or 1/100

Percent change—(increase or decrease) a way to describe a change in quantity by expressing it as a percent of the original quantity.

% of change = \frac{\text{amount of change}}{\text{original amount}} \times 100

Perfect square—a number that is the square of a whole number

Perimeter—the distance around a figure; the sum of all the sides of a figure

Permutation—an arrangement of letters, names or objects

Perpendicular—two rays, segments, or lines that form right angles

Perpendicular bisector—a line that divides a line segment in half and meets the segment at right angles

Polynomial—the sum of monomials

Power—the product obtained by multiplying a quantity by itself a specified number of times, as indicated by its exponent

Pre-image—a figure to which a transformation has been applied

Prime Number—a positive integer other than 1 that is divisible only by itself and one

Product—the answer in a multiplication problem

Property of Opposites—for any number n, n + (-n) = 0

Proportion—a statement that two fractions are equal

Pythagorean Theorem—let the legs of a right triangle have length a and b. Let the hypotenuse have length c, then $a^2 + b^2 = c^2$.

Quadrant—one of the four regions of the coordinate plane determined by the x- and y-axis

Quadratic function—a function with a second degree variable

Quotient—the answer in a division problem

Radius—the segment, or the length of the segment, from the center of a circle to a point on the circle

Range—in a collection of numbers, the difference between the largest and the smallest number

Rate—the quotient of two quantities with different units

Ratio—the quotient of two quantities with the same units

Rational number—Any number that can be written as a simple fraction
**MATH VOCABULARY TERMS**

**Ray**—a part of a line that has one endpoint and extends infinitely in one direction

**Rate of change**—the rate of change between points \((x_1, y_1)\) and \((x_2, y_2)\) is \(\frac{y_2-y_1}{x_2-x_1}\)

**Real number**—any number that can be written as a decimal.

**Reflection**—a transformation in which the image of each point lies on a line perpendicular to a fixed line called a reflection line or mirror and is the same distance from the reflection line as the pre-image point.

**Regular polygon**—a convex polygon in which all sides have the same length and all angles have the same measure

**Relative frequency**—the frequency of a particular outcome divided by the total number of times an experiment is performed

**Repeating decimals**—a decimal in which a digit or group of digits to the right of the decimal point repeat forever; repeating decimals are rational numbers

**Right triangle**—a triangle that has one 90 degree angle

**Rotational symmetry**—the property that a figure coincides with its own image under a rotation of less than 360°

**Sample space**—a list of all possible outcomes of an activity

**Scale**—the conversion factor used to convert real world sizes to sizes in a drawing

**Scientific Notation**—a form of writing numbers as the product of a power of 10 and a decimal number greater than or equal to 1 and less than 10

**Set**—collection of objects called elements

**Similar Figures**—two figures that have the same shape, but not necessarily the same size.

**Simplify**—to write in lowest terms; to combine like terms

**Simple Interest**—the amount of interest determined by the following formula:

\[ \text{Interest} = \text{Principal} \times \text{annual Rate} \times \text{Time in years} \]

**Size change factor**—the number \(k\) by which the coordinates of the preimage are multiplied in a size change

**Slope**—the amount of change in the height of a line as you move one unit to the right. For a line with equation \(y = mx + b\), the slope is \(m\)

**Solving a sentence**—finding the values of the unknown or unknowns that make the sentence true

**Solution set**—the set of values that make an equation or an inequality true.

**Supplementary angles**—two angles with measures whose sum is 180 degrees.

**Square root**—a number or quantity obtained by dividing a number or quantity into its two equal factors.

**Square**—the product of a number quantity multiplied by itself

**Sum**—the answer in an addition problem

**Supplementary Angles**—two angles that have measures whose sum is 180°

**System of equations**—two or more related equations for which you seek a common solution

**System of inequalities**—two or more related inequalities for which you seek a common solution

**Symmetry**—exact correspondence of form and configuration on opposite sides of a dividing line or plane or about a certain point

**Terminating decimal**—a decimal with only a finite number of nonzero decimal places

**Transformation**—a one-to-one correspondence between a first set (the preimage) and a second set (the image).

**Translation**—a two-dimensional slide

**Transversal**—a line that intersects two or more other lines

**Trinomial**—a polynomial with three terms

**Truncate**—to drop off the end numbers

**Undefined slope**—the slope of a vertical line because division by zero is undefined
**Uniform scale**—a scale in which the numbers are equally spaced so that each interval represents the same value

**Unit price**—the price of one unit. The total price divided by the number of units.

**Unit rate**—a rate with a denominator of one

**Unknown**—a variable in an open sentence for which the sentence is to be solved

**Variable**—a symbol that can stand for any one of a set of numbers or other objects.

**Vertex**—1. The common endpoint of two rays. 2. A point common to two sides of a polygon 3. One of the points at which two or more edges meet.

**Vertical Angles**—the opposite angles formed when two lines intersect

**Vertical line test**—a graphical test to determine if a relation is a function

**Volume**—the number of cubic units it takes to fill a figure

**x-axis**—on a coordinate grid, the horizontal axis

**x-coordinate**—the signed horizontal distance from the y-axis on a coordinate grid. In an ordered pair, the value that is always written first

**x-intercept**—where a graph crosses the x-axis

**y-axis**—on a coordinate grid, the vertical axis

**y-coordinate**—the signed vertical distance from the x-axis on a coordinate grid. In an ordered pair, the value that is always written second

**y-intercept**—where a graph crosses the y-axis

**zero-pair**—a pair of numbers whose sum is zero