

MATH GLOSSARY

abundant number: A number whose proper factors sum to a number greater than the original number.

acute angle: An angle that measures greater than 0 degrees and less than 90 degrees.

acute triangle: A triangle with all acute angles.

addend: The numbers being added in an addition problem.

angle: Two rays that meet at a common endpoint.

area: The measure of covering inside a figure. It is measured in square units.

array: A rectangular arrangement of objects with an equal number of objects in each row.

Associative Property of Addition: The grouping of the addends does not affect the sum.
 $6 + (5 + 4) = (6 + 5) + 4$

Associative Property of Multiplication: The grouping of the factors does not affect the product .

$$(7 \cdot 4) \cdot 3 = 7 \cdot (4 \cdot 3)$$

average: See mean.

base: (of an exponent) The number used as the factor in exponential form.
Example: In 3^5 , the base is 3, the exponent is 5.

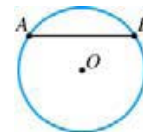
base: (of a 3-dimensional object) A plane (2-dimensional) face of a 3-dimensional figure. A cylinder and prism have congruent, parallel bases.

bimodal: A data set that has two modes.

center point: A point that is the same distance from all the points on a circle.

certain: An event will always happen.

chord: A line segment with its endpoints on the circle. Example:



circle: A set of points equidistant from a fixed point called the center.

circumference: The distance around the circle.

Commutative Property of Addition: The order of the addends does not affect the sum.

$$9 + 7 = 7 + 9$$

Commutative Property of Multiplication: The order of the factors does not affect the product.

$$3 \cdot 4 = 4 \cdot 3$$

compatible number: A number that is easy to work with mentally.

composite number: A number with more than two factors.

congruent: Having ***exactly*** the same size and same shape.

cone: A three dimensional figure with one vertex and one circular base.



coordinates: An ordered pair of numbers that identify a point on a coordinate grid.

coordinate grid: A 2-dimensional system in which the coordinates of a point are its distances from two perpendicular straight lines called axes.

counting numbers: {1, 2, 3, 4, ...}

cross product: The product of one numerator and the opposite denominator in a pair of equivalent fractions. The cross products of equivalent fractions are equal.

cube: (1) A number raised to the third power. Example: 5^3
or (2) A rectangular prism with six congruent square faces.



cubed: A number raised to the third power.

cylinder: A three dimensional figure with two parallel congruent circular bases connected by a curved lateral surface.



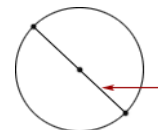
decagon: A ten-sided polygon.

decimal: A number with a decimal point that represents and is equivalent to a fraction with a denominator of 10 or a power of 10.

deficient number: A number whose sum of its proper factors is less than the original number.

denominator: The total number of equal parts in the whole or group.

diameter: A line segment that passes through the center of a circle and has its endpoints on the circle. A diameter is a special chord.



difference: The answer to a subtraction problem.

digit: Any one of the ten symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

dimensions: (1) The lengths of sides of a geometric figure. (2) the number of coordinates needed to locate a point in space. Example: 2-dimensional, 3-dimensional.

Distributive Property: The property that states if you multiply a sum by a number, you will get the same result if you multiply each addend by that number and then add the products.
 $5 \cdot (6 + 2) = (5 \cdot 6) + (5 \cdot 2)$

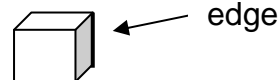
dividend: The total you begin with before fair sharing (dividing).

divisible: One number is divisible by another if their quotient is an integer.

divisor: The number by which another number is being divided. Example: In $56 \div 8$, 8 is the divisor.

dodecagon: A twelve-sided polygon.

edge: The line segment where two faces of a solid figure meet.



endpoint: A point at either end of a line segment or a point at one end of a ray.

equally likely: Two or more events that have the same chance or equal probability.

equation: A sentence that two mathematical expressions are equal.

equiangular: All angles of a polygon are equal.

equilateral triangle: A triangle with all sides and angles equal (congruent).

equivalent fractions: Fractions that have the same value. Equivalent fractions name the same or equal part of the whole or group.

even number: A number that can be formed by “making pairs” **OR** A number that is divisible by 2. Even numbers end in 0, 2, 4, 6, or 8.

event: The “thing” that will or will not happen. For example, picking a red marble out of a bag.

expanded form: A way to write numbers that shows the place value of each digit.
Example: $378 = 300 + 70 + 8$

infinite: Having no boundaries or limits.

integers: The set of whole numbers and their opposites. $\{\dots -3, -2, -1, 0, 1, 2, 3, \dots\}$

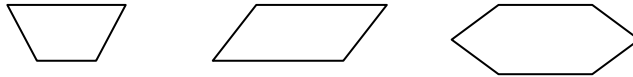
intersect: When lines, rays, or line segments meet or cross at one point.

Example:



irregular polygon: A polygon whose sides and angles are ***not*** all equal.

Example:



isosceles triangle: A triangle with at least two sides and their opposite angles equal.

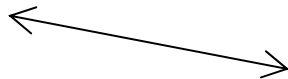
least common denominator: (LCD) The smallest common multiple of the denominators of two or more fractions.

least common multiple: The smallest number, other than zero, that is a multiple of two or more numbers.

leg: In a right triangle, one of two sides that form the right angle.

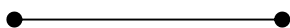
line: An infinite set of points forming a straight path in two directions.

Example:



line segment: A part of a line defined by two endpoints.

Example:



mean: (average) The sum of the pieces of data divided by the number of pieces of data.

measures of central tendency: Values which include mean, median, and mode that summarize the central value of a set of data.

median: The middle number in a set of data after the numbers are arranged in order, or the mean of two numbers when the set has two middle numbers.

minuend: The number being subtracted ***from***.

mixed number: An expression that contains a whole number and a fraction.

mode: The number(s) or item(s) that appear most often in a set of data. There can be one mode, many modes, or no mode.

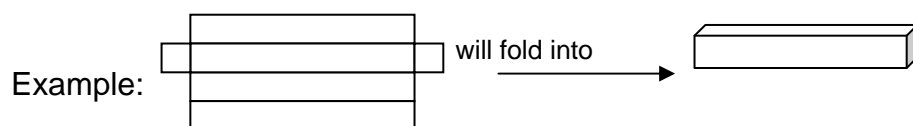
multiple: A multiple of a given number is the product of that number and any natural number (counting number).

multiplicative inverse: Two expressions (including whole numbers, fractions, mixed numbers, decimals, etc.) whose product is one are called reciprocals or multiplicative inverses.

natural numbers: The counting numbers $\{1, 2, 3, 4, \dots\}$.

negative integer: An integer less than zero. $\{\dots -4, -3, -2, -1\}$

net: A 2-dimensional shape that can be folded into a 3-dimensional figure.



nonagon: A nine-sided polygon.

numerator: The number of equal parts you are interested in out of the whole.

obtuse angle: An angle that measure greater than 90 degrees and less than 180 degrees.

obtuse triangle: A triangle with one obtuse angle.

octagon: An eight-sided polygon.

odd number: When you try to put an odd number of things into pairs there is always one leftover **OR** A number that is **not** divisible by 2. Odd numbers end in 1, 3, 5, 7, or 9.

Order of Operations (Fundamental Order of Operations or F.O.O): a rule describing the sequence to use in evaluating expressions. mnemonic is PEMDAS

Parentheses, **E**xponents, **M**ultiplication or **D**ivision (left to right), **A**ddition or **S**ubtraction (left to right).

ordinal numbers: A whole number that names the position of an object in a sequence.
Example: first, second, third, etc.

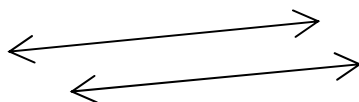
origin: The intersection of the x-and y- axes in a coordinate plane, described by the ordered pair (0,0).

outcome: One of the possible “things” that can happen in a probability experiment.

outlier: A piece of data much greater or less than the others in a set.

parallel: When lines, line segments, or rays are always the same distance apart.

Example:



parallelogram: A quadrilateral with 2 pairs of parallel and congruent sides.

pentagon: A five-sided polygon.

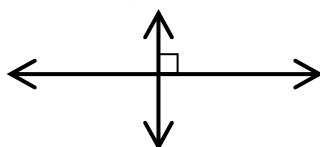
percent: A fraction whose denominator is 100 represented as a number written with a percent sign (%).

perfect number: A number whose sum of its proper factors is equal to the number itself.

peRIMeter: The distance around the RIM of a figure.

perpendicular : When lines, line segments, or rays intersect to form a right angle.

Example:



point: An exact location in space represented by a dot.

place value: The value of the position of a digit in a number.

plane: A flat surface that extends infinitely in all directions.

plane figure: A 2–dimensional figure such as a circle, polygon, or angle.

polygon: A closed figure formed from line segments that meet only at their endpoints.

positive integer: An integer greater than zero. {1, 2, 3, 4, ...}

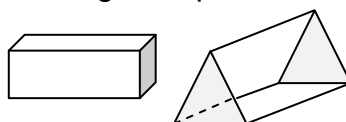
polyhedron: A 3–dimensional figure in which all surfaces are polygons such as prisms and pyramids.

power: An exponent. Example: 4 to the third power = 4^3

prime factorization: A number written as a product of its prime factors.

prime number: A number with two factors: the number 1 and itself.

prism: A three dimensional figure with two congruent parallel bases that are polygons and the remaining faces are parallelograms.



probability: The chance that an event will or will not happen. Probability can be expressed as a fraction. **probability** = $\frac{\text{the number of successes}}{\text{the total possible outcomes}}$

product: The answer to a multiplication problem.

proper factor: Factors of a number other than the number itself.

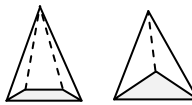
Example: the proper factors of 18 are 1, 2, 3, 6, and 9.

proper fraction: A fraction whose numerator is less than its denominator.

protractor: Tool for measuring angles.



pyramid: A 3-dimensional figure whose base is a polygon and all other faces are triangular which meet at a common vertex.



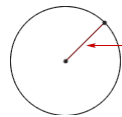
quadrant: One of the four sections of a coordinate grid that are separated by the axes.

quadrilateral: A four-sided polygon.

quotient: The answer to a division problem.

radius: A line segment with one endpoint at the center of a circle and the other endpoint on the circle. Plural is radii.

Example:



random: By chance, with no outcome any more likely than another flipping a coin or rolling a die have random outcomes.

range: The difference between the greatest and least numbers in a data set.

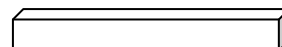
ratio: A comparison of two numbers using division.

ray: A set of points that extends in one direction with one endpoint.

reciprocals: Two expressions (including whole numbers, fractions, mixed numbers, decimals, etc.) whose product is one are called reciprocals or multiplicative inverses.

rectangle: A quadrilateral with 2 pairs of congruent parallel sides and 4 right angles.

rectangular prism: A prism with six rectangular faces.



reduce: To put a fraction into simplest form. Example: $\frac{3}{6} = \frac{1}{2}$

reflection (flip): A transformation of a figure which flips the figure across a line.

Example:



reflex angle: An angle that measures greater than 180° .

reflexive marks: Symbols on a polygon that show congruent sides and angles, and which sides are parallel.

regular polygon: A polygon with all sides and angles equal (congruent).

Example:



remainder: The number left over when a set of objects is fair shared.

repeating decimal: A decimal that has a sequence of digits that repeats infinitely.

Examples: $0.555\ldots$ $0.353535\ldots$ $16.35\overline{35}$

rhombus: A quadrilateral with 2 pairs of parallel sides and 4 congruent sides.

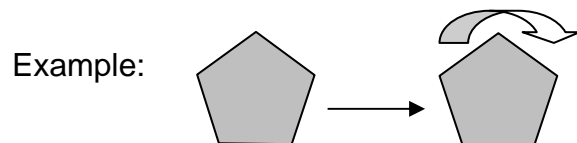
right angle: An angle that measures exactly 90 degrees.

right triangle: A triangle with one right angle.

rotation (turn): A transformation of a figure in which the figure is turned around a point.



rotational symmetry: The ability for a figure to rotate and still look like the original figure.



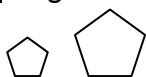
sample/survey: A number of people, objects, or events chosen from a given population to represent the entire group.

scalene triangle: A triangle with no sides or angles congruent.

septagon/heptagon: A seven-sided polygon.

side: A line segment connected to other line segments to form a polygon.

similar figures: Figures that have the same shape but not necessarily the same size.



simplest form: A fraction whose numerator and denominator have no common factor greater than 1. $\frac{1}{2}$ is in simplest form

slide (translation): A movement of a figure along a straight line. Example: 

solution: A value or values that make an equation true.

Example: $7 + x = 19$ the solution is $x = 12$

sphere: A three dimensional figure with all points the same distance from the center.



square: A quadrilateral with 2 pairs of parallel sides, 4 equal (congruent) sides and 4 right angles.

square root: One of two equal factors of a number. Examples: 7 is the square root of 49
 $\sqrt{49} = 7$

square number: The product of a number multiplied by itself.

standard form: The form of a number written with one digit for each place value.

Examples: 378 24, 788 1,252,645

straight angle: An angle that measures exactly 180 degrees.

subtrahend: The number ***being subtracted***.

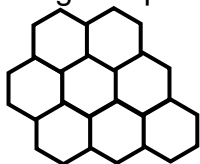
sum: The answer to an addition problem.

symmetry: See *line symmetry and rotational symmetry*.

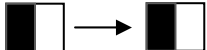
term: A number, variable, product, or quotient in an expression.

terminating decimal: A decimal number which ends (terminates).

tessellation: A covering of a plane without overlaps or gaps using combinations of congruent figures.



transformation: A rule for moving every point in a plane figure to a new location. See *translation, rotation, and reflection*.


translation (slide): A movement of a figure along a straight line. Example: 

trapezoid: A quadrilateral with exactly one pair of parallel sides.

right trapezoid  isosceles trapezoid 

triangle: A three-sided polygon.

turn (rotation): A transformation of a figure in which the figure is turned around a point.

Example: 

turn symmetry: See *rotational symmetry*.

twin prime numbers: Two prime numbers that are also consecutive odd numbers.

Example: 3 and 5

unique number (#1): The number 1 has only one factor. (It is therefore unique.)

unit fraction: A fraction with one as the numerator. Examples: $\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{8}$

variable: A symbol, usually a letter, that represents a value that can change.

vertex: The point where two rays meet to form an angle. Plural is vertices.

vinculum: A symbol used to show that decimals repeat infinitely.

Examples: $1.487\overline{487}$ $0.575\overline{7}$

whole numbers: The set of counting numbers and zero. {0, 1, 2, 3, ...}

word form: The written form of a number. Example: 378 is three hundred seventy-eight

Zero Property of Multiplication: The property that states the product of any number and zero is zero.

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