

PreK and Primary Grade Math Terms

Abacus: An early counting tool or counting frame with rows of moveable beads used for basic arithmetic. (Similar to the modern day Rekenrek)

Addend: A number involved in an addition problem; numbers being added are called addends.

Algebra: The branch of mathematics that substitutes letters for numbers to solve for unknown values.

Angle: Two rays sharing the same endpoint (called the angle vertex).

- **Acute Angle:** An angle whose measure is between 0° and 90° or with less than 90° radians.
- **Obtuse Angle:** An angle measuring between 90° and 180° .
- **Complementary Angles:** Two angles that together equal 90° .
- **Degree:** The unit of an angle's measure represented with the symbol $^\circ$
- **Right Angle:** An angle equal to 90° .

Area: The two-dimensional space taken up by an object or shape, given in square units.

Array: A set of numbers or objects that follow a specific pattern.

Attribute: A characteristic or feature of an object—such as size, shape, color, etc.—that allows it to be grouped.

Average: The average is the same as the mean. Add up a series of numbers and divide the sum by the total number of values to find the average.

Base: The bottom of a shape or three-dimensional object, what an object rests on.

Base 10: Number system that assigns place value to numbers.

Bar Graph: A graph that represents data visually using bars of different heights or lengths.

Bell Curve: The bell shape created when a line is plotted using data points for an item that meets the criteria of normal distribution. The center of a bell curve contains the highest value points.

Capacity: The volume of substance that a container will hold.

Cardinal Number: A cardinal number that says how many of something there are, such as one, two, three, four, five

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Centimeter: A metric unit of measurement for length, abbreviated as cm. 2.5 cm is approximately equal to an inch.

Circumference: The complete distance around a circle or a square.

Communicative Property of Addition: The commutative property of addition means that it does not matter what order in which you add numbers. You will get the same answer either way. It is represented as $a + b = b + a$, in which a and b are real numbers. However, the property is not limited to two numbers. Examples: $2 + 4 = 6$ and $4 + 2 = 6$.

Common Factors: A factor shared by two or more numbers. Common factors are numbers that divide exactly into two different numbers.

Composite Number: A positive integer with at least one factor aside from its own. Composite numbers cannot be prime because they can be divided exactly.

Cone: A three-dimensional shape with only one vertex and a circular base.

Congruent: Objects and figures that have the same size and shape. Congruent shapes can be turned into one another with a flip, rotation, or turn.

Conservation of number: Conservation of numbers means that a person is able to understand that the number of objects remains the same even when rearranged.

Cylinder: A three-dimensional shape featuring two circle bases connected by a curved tube.

Decagon: A polygon/shape with ten angles and ten straight lines.

Decimal: A real number on the base ten standard numbering system.

Denominator: The bottom number of a fraction. The denominator is the total number of equal parts into which the numerator is being divided.

Diagonal: A line segment that connects two vertices in a polygon.

Diameter: A line that passes through the center of a circle and divides it in half.

Difference: The difference is the answer to a subtraction problem, in which one number is taken away from another.

Digit: Digits are the numerals 0-9 found in all numbers. 176 is a 3-digit number featuring the digits 1, 7, and 6.

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Dividend: A number being divided into equal parts (inside the bracket in long division).

Divisor: A number that divides another number into equal parts (outside of the bracket in long division).

Equilateral: A term used to describe a shape whose sides are all of equal length.

Equation: A statement that shows the equality of two expressions by joining them with an equal sign.

Even Number: A number that can be divided or is divisible by 2.

Evaluate: This word means "to calculate the numerical value".

Exponent: The number that denotes repeated multiplication of a term, shown as a superscript above that term. The exponent of 3^4 is 4.

Expressions: Symbols that represent numbers or operations between numbers.

Fraction: A quantity that is not whole that contains a numerator and denominator. The fraction representing half of 1 is written as $1/2$.

Geometry: The study of lines, angles, shapes, and their properties. Geometry studies physical shapes and the object dimensions.

Greatest Common Factor: The largest number common to each set of factors that divides both numbers exactly. The greatest common factor of 10 and 20 is 10.

Hexagon: A six-sided and six-angled polygon.

Histogram: A graph that uses bars that equal ranges of values

Hypotenuse: The longest side of a right-angled triangle, always opposite to the right angle itself.

Inequality: A mathematical equation expressing inequality and containing a greater than ($>$), less than ($<$), or not equal to (\neq) symbol.

Integers: All whole numbers, positive or negative, including zero.

Isosceles: A polygon with two sides of equal length.

Kilometer: A unit of measure equal to 1000 meters.

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Line: A straight infinite path joining an infinite number of points in both directions.

Line Segment: A straight path that has two endpoints, a beginning and an end.

Linear Equation: An equation that contains two variables and can be plotted on a graph as a straight line.

Midpoint: A point that is exactly halfway between two locations.

Mixed Numbers: Mixed numbers refer to whole numbers combined with fractions or decimals. Example $3\frac{1}{2}$ or 3.5.

Mode: The mode in a list of numbers are the values that occur most frequently.

Multiple: The multiple of a number is the product of that number and any other whole number. 2, 4, 6, and 8 are multiples of 2.

Multiplication: Multiplication is the repeated addition of the same number denoted with the symbol x. 4×3 is equal to $3 + 3 + 3 + 3$.

Multiplicand: A quantity multiplied by another. A product is obtained by multiplying two or more multiplicands.

Natural Numbers: Regular counting numbers.

Negative Number: A number less than zero denoted with the symbol -. Negative 3 = -3.

Norm: The mean or average; an established pattern or form.

Numerator: The top number in a fraction. The numerator is divided into equal parts by the denominator.

Number Line: A line whose points correspond to numbers.

Numeral: A written symbol denoting a number value.

Obtuse Triangle: A triangle with at least one obtuse angle.

Octagon: A polygon with eight sides.

Odd Number: A whole number that is not divisible by 2.

Operation: Refers to addition, subtraction, multiplication, or division.

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Ordinal Number: Ordinal numbers give relative position in a set: first, second, third, etc.

Order of Operations: A set of rules used to solve mathematical problems in the correct order. This is often remembered with acronyms BEDMAS and PEMDAS.

Parallelogram: A quadrilateral with two sets of opposite sides that are parallel.

Pentagon: A five-sided polygon. Regular pentagons have five equal sides and five equal angles.

Percent: A ratio or fraction with the denominator 100.

Perimeter: The total distance around the outside of a polygon. This distance is obtained by adding together the units of measure from each side.

Perpendicular: Two lines or line segments intersecting to form a right angle.

Polynomial: The sum of two or more monomials.

Polygon: Line segments joined together to form a closed figure. Rectangles, squares, and pentagons are just a few examples of polygons.

Prime Numbers: Prime numbers are integers greater than 1 that are only divisible by themselves and 1.

Probability: The likelihood of an event happening.

Product: The sum obtained through multiplication of two or more numbers.

Proper Fraction: A fraction whose denominator is greater than its numerator.

Protractor: A semi-circle device used for measuring angles. The edge of a protractor is subdivided into degrees.

Quadrant: One quarter (*qua*) of the plane on the Cartesian coordinate system. The plane is divided into 4 sections, each called a quadrant.

Quadrilateral: A four-sided polygon.

Quadruple: To multiply or to be multiplied by 4.

Qualitative: Properties that must be described using qualities rather than numbers.

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Quartic: A polynomial having a degree of 4.

Quotient: The solution to a division problem.

Radius: A distance found by measuring a line segment extending from the center of a circle to any point on the circle; the line extending from the center of a sphere to any point on the outside edge of the sphere.

Ratio: The relationship between two quantities. Ratios can be expressed in words, fractions, decimals, or percentages. Example: the ratio given when a team wins 4 out of 6 games is $4/6$, $4:6$, four out of six, or $\sim 67\%$.

Ray: A straight line with only one endpoint that extends infinitely.

Range: The difference between the maximum and minimum in a set of data.

Rectangle: A parallelogram with four right angles.

Reflection: The mirror image of a shape or object, obtained from flipping the shape on an axis.

Remainder: The number left over when a quantity cannot be divided evenly. A remainder can be expressed as an integer, fraction, or decimal.

Rekenrek: Similar to an abacus, a Rekenrek is an arithmetic frame designed to help students visualize addition and subtraction strategies. It typically features two rows of 10 beads, each broken by color into two sets of five. A ten-bar Rekenrek works well with our base-ten number system.

Right Triangle: A triangle with one right angle.

Rhombus: A parallelogram with four sides of equal length and no right angles.

Scalene Triangle: A triangle with three unequal sides.

Square Root: A number squared is multiplied by itself; the square root of a number is whatever integer gives the original number when multiplied by itself. For instance, 12×12 or 12 squared is 144, so the square root of 144 is 12.

Subitize: To subitize is to identify the number of things in a set simply by quickly looking at them—not by counting them one by one.

Subtraction: The operation of finding the difference between two numbers or quantities by "taking away" one from the other.

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Supplementary Angles: Two angles are supplementary if their sum is equal to 180° .

Symmetry: Two halves that match perfectly and are identical across an axis.

Trapezoid: A quadrilateral with exactly two parallel sides.

Triangle: A three-sided polygon.

Unit: A standard quantity used in measurement. Inches and centimeters are units of length, pounds and kilograms are units of weight, and square meters and acres are units of area.

Uniform: Term meaning "all the same". Uniform can be used to describe size, texture, color, design, and more.

Variable: A letter used to represent a numerical value in equations and expressions. Example: in the expression $3x + y$, both y and x are the variables.

Venn Diagram: A Venn diagram is usually shown as two overlapping circles and is used to compare two sets. The overlapping section contains information that is true of both sides or sets and the non-overlapping portions each represent a set and contain information that is only true of their set.

Volume: A unit of measure describing how much space a substance occupies or the capacity of a container, provided in cubic units.

Vertex: The point of intersection between two or more rays, often called a corner. A vertex is where two-dimensional sides or three-dimensional edges meet.

Weight: The measure of how heavy something is.

Whole Number: A whole number is a positive integer.

X-Axis: The horizontal axis in a coordinate plane.

X: The Roman numeral for 10.

x: A symbol used to represent an unknown quantity in an equation or expression.

Y-Axis: The vertical axis in a coordinate plane.

Yard: A unit of measure that is equal to approximately 91.5 centimeters or 3 feet.

Source: <https://www.thoughtco.com/glossary-of-mathematics-definitions-4070804>