

Glossary

A

absolute value - the value of a number without its sign, or the difference between a number and zero expressed as a positive number

additive inverse - the number that, when added to another, results in a sum of 0

algebra - a branch of mathematics that deals with numbers, which may be represented by letters or symbols

analytic geometry - a branch of mathematics that applies algebraic principles to geometry

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

Associative Property - a property that states that the way terms are grouped in an addition or multiplication expression does not affect the result

B

base - a number that is raised to a power;
2. 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

binomial - an algebraic expression with two terms

break-even point - in a business, the point where revenue and costs are the same

C

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

circle - the plane figure made up of all points equidistant from a given center

coefficient - a quantity placed before and multiplying the variable in an algebraic expression

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

composite numbers - may be factored in more than one way; not prime

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

conic section - a curve that results when a cone is intersected by a plane

consecutive integers - integers that follow each other in order,
ex., -2, -1, 0, 1, 2, ...

constant - a fixed, unchanging value

conversion factor - a ratio equal to one that is used to convert measures;
also called *unit multiplier*

counting numbers - whole numbers from 1 to infinity; also called *natural numbers*

cube - a number multiplied by itself three times

cube root - the number which, when multiplied by itself three times, produces a given number

D - E

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

Distributive Property of Multiplication over Addition - a property for multiplying a sum by a given factor

elimination - a method of solving simultaneous equations by using additive inverses

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

exponent - a raised number that indicates the number of times a factor is multiplied by itself; also called *power*

F - G

factor - (n.) a whole number that multiplies with another to form a product;
(v.) to find the factors of a given product

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

greatest common factor (GCF) - the greatest number that will divide evenly into two or more numbers

H - L

hyperbola - a conic section that forms two congruent open curves facing in opposite directions on a graph

inequality - a mathematical statement showing that two expressions have different values

integer - a non-fractional number that can be positive, negative, or zero

inverse - opposite or reverse

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

least common multiple (LCM) - the least number that is a multiple of two or more other numbers

like terms - terms in an algebraic expression that have the same variables and the same powers of those variables

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

linear equation - an equation that creates a straight line when graphed

M - O

multiplicative inverse - the number that, when multiplied by a given number, has a product of 1; also called *reciprocal*

natural numbers - whole numbers from 1 to infinity; also called counting numbers

negative number - a number less than zero

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

P - Q

parabola - a conic section that forms a symmetrical curve on a graph

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

perpendicular lines - lines that form right angles when they intersect

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

polynomial - an algebraic expression with more than one term

positive numbers - numbers greater than zero

power - another name for an *exponent*; indicates the number of times a factor is multiplied by itself

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

quadrant - one of the four sections formed by the axes of a Cartesian coordinate grid

R

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*

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

real numbers - numbers that can be written as decimals, including rational and irrational numbers

reciprocal - the number that, when multiplied by a given number, has a product of 1; also called *multiplicative inverse*

rise - the vertical distance of a line for a specified horizontal distance; divided by the run to determine slope

run - the horizontal distance of a line for a specified vertical distance; divided into the rise to determine slope

S

scientific notation - a way to write numbers using the product of a base and a power of ten

significant digits - digits that indicate the accuracy of a measurement

simultaneous equations - a pair of equations with two unknown variables that must be solved at the same time

slope - the steepness of a line, found by determining the ratio of the rise to the run

slope-intercept form - the equation of a line written in the form $y = mx + b$, where m indicates the slope and b indicates the y -intercept

square - a number multiplied by itself

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

substitution - a method of solving simultaneous equations by expressing one unknown in terms of the other

system of equations - two or more equations with the same set of unknowns

T - Z

term - a part of an algebraic expression which may be a number, a variable, or a product

trinomial - an algebraic expression with three terms

undefined - having no mathematical meaning

unit - the place in a place-value system representing numbers less than the base; a quantity used as a standard of measure

unit multiplier - a ratio equal to one that is used to convert measures; also called *conversion factor*

unknown - a specific quantity that has not yet been determined

variable - a value that is not fixed or determined, often representing a range of possible values

vertex - the highest or lowest point of a parabola; the endpoint shared by two rays, line segments, or edges; plural is *vertices*

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

whole numbers - counting numbers from zero to infinity, excluding fractions

X-axis - the vertical number line used as a reference on a Cartesian coordinate system

Y-axis - the horizontal number line used as a reference on a Cartesian coordinate system

Y-intercept - the coordinate of a point at which a line, curve, or surface intersects the Y -axis