

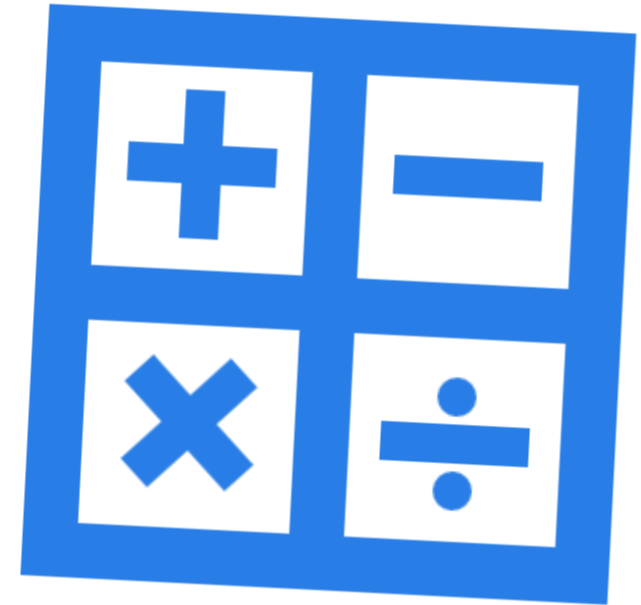
The background features a collection of 3D plus signs (+) in white, grey, and blue, scattered across a light grey gradient. The plus signs are rendered with perspective, giving them a three-dimensional appearance. Some are larger and more prominent, while others are smaller and more faded. The overall aesthetic is clean and modern.

***Unit 1- Vocabulary***

***Algebra 1***

- **absolute value** - the magnitude of a number, irrespective of its sign, represented as its distance from zero on a number line; always expressed as a non-negative value. Example: The absolute value of both 4, denoted as  $|4|$ , and -4, denoted as  $|-4|$ , is 4.
- **addend** - any number involved in an addition operation. Example: In the equation  $14 + 6 = 20$ , the addends are 14 and 6.
- **additive identity** - the number zero (0), which when added to any other number results in the same number. Example:  $5 + 0 = 5$ .
- **additive inverses** - two numbers whose sum is zero; also referred to as opposites. Example: In the equation  $3 + (-3) = 0$ , the additive inverses are 3 and -3.
- **algebraic expression** - a mathematical expression containing numbers, variables, and operations, but not equality or inequality symbols. Example:  $2x + y$  or  $3a^2 - 4b + 2$ .
- **associative property** - the property stating that the grouping of three or more numbers for addition or multiplication does not change their sum or product, respectively. Examples:  $(5 + 6) + 9 = 5 + (6 + 9)$  or  $(2 \times 3) \times 8 = 2 \times (3 \times 8)$ .

# Vocabulary



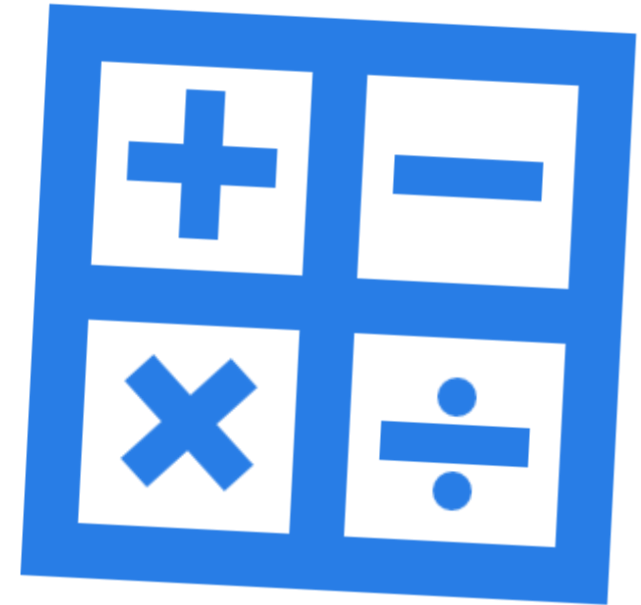
# Vocabulary

- **braces** - symbols { } used for grouping elements in sets.
- **commutative property** - the property stating that the order of numbers in addition or multiplication does not affect their sum or product, respectively. Examples:  $2 + 3 = 3 + 2$  or  $4 \times 7 = 7 \times 4$ .
- **counting numbers (natural numbers)** - the positive integers starting from 1 and continuing indefinitely {1, 2, 3, 4, 5, ...}.
- **cube (power)** - the result of raising a number to the third power. Example:  $4^3 = 4 \times 4 \times 4 = 64$ .
- **decimal number** - a number written with a decimal point, representing a portion of a whole number. Examples: 1.5, 0.5.
- **difference** - the result of subtraction. Example: In  $16 - 9 = 7$ , the difference is 7.
- **digit** - any of the symbols 0 through 9.
- **element or member** - an individual object within a set.
- **empty set or null set ( $\emptyset$ )** - a set containing no elements.
- **equation** - a mathematical statement asserting the equality of two expressions. Example:  $2x = 10$ .
- **even integer** - any integer divisible by 2. Example: {..., -4, -2, 0, 2, 4, ...}.
- **exponent (exponential form)** - the number of times a base is multiplied by itself. Example:  $2^3 = 2 \times 2 \times 2$ .
- **expression** - a mathematical phrase combining numbers, operations, and variables. Examples:  $4r^2$ ;  $3x + 2y$ .



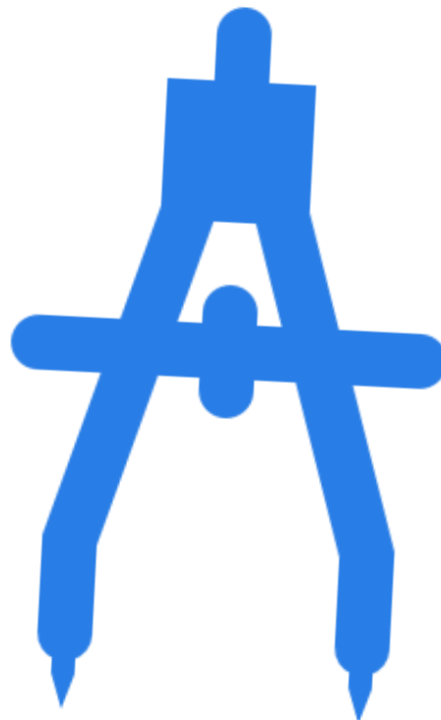
# Vocabulary

- **finite set** - a set with a limited or countable number of elements.
- **fraction** - a part of a whole expressed as a ratio of two numbers. Example:  $1/2$ .
- **grouping symbols** - parentheses  $()$ , braces  $\{\}$ , brackets  $[\ ]$ , or fraction bars used to group terms in an expression.
- **infinite set** - a set with an unlimited number of elements.
- **integers** - the set of whole numbers and their negatives  $\{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$ .
- **irrational number** - a real number that cannot be expressed as a ratio of two integers. Example:  $\sqrt{2}$ .
- **multiples** - the numbers obtained by multiplying a given whole number by integers. Example: The multiples of 15 are 0, 15, 30, 45, 60, 75, etc.
- **natural numbers (counting numbers)** - the positive integers  $\{1, 2, 3, 4, 5, \dots\}$ .
- **negative integers** - integers less than zero.
- **negative numbers** - numbers less than zero.
- **null set ( $\emptyset$ ) or empty set** - a set containing no elements.
- **number line** - a line representing ordered numbers.
- **odd integer** - any integer not divisible by 2. Example:  $\{\dots, -5, -3, -1, 1, 3, 5, \dots\}$ .
- **opposites** - two numbers whose sum is zero; also known as additive inverses.
- **order of operations** - the sequence for performing mathematical computations, typically involving parentheses, exponents, multiplication, division, addition, and subtraction.
- **pattern (relationship)** - a predictable sequence of numbers or objects.



# Vocabulary

- **pi ( $\pi$ )** - the symbol representing the ratio of a circle's circumference to its diameter; commonly approximated as 3.14 or  $22/7$ .
- **positive integers** - integers greater than zero.
- **positive numbers** - numbers greater than zero.
- **power (of a number)** - an exponent indicating how many times a number is multiplied by itself.
- **product** - the result of multiplying numbers together.
- **quotient** - the result of dividing two numbers.
- **ratio** - the comparison of two quantities.
- **rational number** - a number expressible as a ratio of two integers.
- **real numbers** - the set of all rational and irrational numbers.
- **repeating decimal** - a decimal in which one or more digits repeat infinitely.



# Vocabulary

- **root** - a factor of a number.
- **set** - a collection of distinct objects or numbers.
- **simplify an expression** - to perform all indicated operations in an expression.
- **solve** - to find the values that satisfy an equation or inequality.
- **square (of a number)** - the result when a number is multiplied by itself.
- **sum** - the result of adding numbers together.
- **terminating decimal** - a decimal with a finite number of digits.
- **value (of a variable)** - any number represented by a variable.
- **variable** - a symbol representing a quantity that may vary.
- **Venn diagram** - a diagram showing relationships between sets.
- **whole numbers** - the set of non-negative integers  $\{0, 1, 2, 3, 4, \dots\}$ .

