Vocabulary

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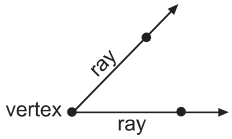
Use the vocabulary words and definitions below as a reference for this unit.

additive identity ..... the number zero (0), that is, adding 0 does not change a number's value
Example: 5 + 0 = 5

additive inverses ..... a number and its opposite whose sum is zero (0); also called *opposites*
Example: In the equation 3 + -3 = 0, 3 and -3 are additive inverses, or *opposites*, of each other.

angle (∠) ..... the shape made by two rays extending from a common endpoint, the vertex; measures of angles are described in degrees (°)



area (*A*) ..... the inside region of a two-dimensional figure measured in square units
Example: A rectangle with sides of four units by six units contains 24 square units or has an area of 24 square units.

associative property ..... the way in which three or more numbers are grouped for addition or multiplication does *not* change their sum or product
Example: (5 + 6) + 9 = 5 + (6 + 9) *or* (2 x 3) x 8 = 2 x (3 x 8)

commutative property ..... the order in which any two numbers are added or multiplied does *not* change their sum or product
Example: 2 + 3 = 3 + 2 *or* 4 x 7 = 7 x 4

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consecutive ..... in order
Example: 6, 7, 8 are consecutive whole numbers and 4, 6, 8 are consecutive even numbers.

cube (power) ..... the third power of a number
Example: $4^3 = 4 \times 4 \times 4 = 64$

cubic units ..... units for measuring volume

decrease ..... to make less

degree (°) ..... common unit used in measuring angles

difference ..... the result of a subtraction
Example: In $16 - 9 = 7$,
7 is the difference.

distributive property ..... for any real numbers a, b, and x,
$x(a + b) = ax + bx$

equation ..... a mathematical sentence that equates one expression to another expression
Example: $2x = 10$

equivalent (forms of a number) ..... the same number expressed in different forms
Example: $\frac{3}{4}$, 0.75, and 75%

even number ..... any whole number divisible by 2
Example: 2, 4, 6, 8, 10, 12 …

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expression ..... a collection of numbers, symbols, and/or operation signs that stands for a number
Example: $4r^2$; $3x + 2y$;
Expressions do *not* contain equality (=) or inequality (<, >, ≤, ≥, or ≠) symbols.

graph of a number ..... the point on a number line paired with the number

increase ..... to make greater

inequality ..... a sentence that states one expression is greater than (>), greater than or equal to (≥), less than (<), less than or equal to (≤), or not equal to (≠) another expression
Example: $a \neq 5$ or $x < 7$

integers ..... the numbers in the set
{… , -4, -3, -2, -1, 0, 1, 2, 3, 4, …}

inverse operation ..... an action that cancels a previously applied action
Example: Subtraction is the inverse operation of addition.

irrational number ..... a real number that cannot be expressed as a ratio of two numbers
Example: $\sqrt{2}$

length (*l*) ..... a one-dimensional measure that is the measurable property of line segments

like terms ..... terms that have the same variables and the same corresponding exponents
Example: In $5x^2 + 3x^2 + 6$, $5x^2$ and $3x^2$ are like terms

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measure (m) of an angle (∠) ..... the number of degrees (°) of an angle

multiplicative identity ..... the number one (1), that is, multiplying by 1 does not change a number's value
Example: 5 x 1 = 5

multiplicative inverses ..... any two numbers with a product of 1; also called *reciprocals*
Example: 4 and $\frac{1}{4}$

multiplicative property of -1 ..... the product of any number and -1 is the opposite or additive inverse of the number
Example: -1(a) = -a and a(-1) = -a

multiplicative property of zero ..... for any number a, $a \bullet 0 = 0$ and $0 \bullet a = 0$

negative numbers ..... numbers less than zero

number line ..... a line on which numbers can be written or visualized

odd number ..... any whole number *not* divisible by 2
Example: 1, 3, 5, 7, 9, 11 …

order of operations ..... the order of performing computations in parentheses first, then exponents or powers, followed by multiplication and division, then addition and subtraction
Example: $5 + (12 - 2) \div 2 - 3 \times 2 =$
$5 + 10 \div 2 - 3 \times 2 =$
$5 + 5 - 6 =$
$10 - 6 =$
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perimeter (*P*) ..... the length of the boundary around a figure; the distance around a polygon

positive numbers ..... numbers greater than zero

power (of a number) ..... an exponent; the number that tells how many times a number is used as a factor
Example: In 2^3, 3 is the power.

product ..... the result of a multiplication
Example: In 6 x 8 = 48,
48 is the product.

quotient ..... the result of a division
Example: In 42 ÷ 7 = 6,
6 is the quotient.

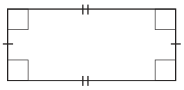
ratio ..... the quotient of two numbers used to compare two quantities
Example: The ratio of 3 to 4 is $\frac{3}{4}$.

rational number ..... a real number that can be expressed as a ratio of two integers

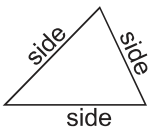
real numbers ..... all rational and irrational numbers

reciprocals ..... two numbers whose product is 1
Example: Since $\frac{3}{4} \times \frac{4}{3} = 1$, the reciprocal of $\frac{3}{4}$ is $\frac{4}{3}$.

rectangle ..... a parallelogram with four right angles



side ..... the edge of a two-dimensional geometric figure
Example: A triangle has three sides.



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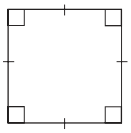
simplify an expression ..... to perform as many of the indicated operations as possible

solution ..... any value for a variable that makes an equation or inequality a true statement
Example: In $y = 8 + 9$
$y = 17$ 17 is the solution.

solve ..... to find all numbers that make an equation or inequality true

square ..... a rectangle with four sides the same length



square (of a number) ..... the result when a number is multiplied by itself or used as a factor twice
Example: 25 is the square of 5.

square units ..... units for measuring area; the measure of the amount of an area that covers a surface

substitute ..... to replace a variable with a numeral
Example: $8(a) + 3$
$8(5) + 3$

substitution property of equality ..... for any numbers a and b, if $a = b$, then a may be replaced by b

sum ..... the result of an addition
Example: In $6 + 8 = 14$,
14 is the sum.

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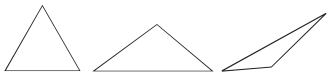
symmetric property of equality ..... for any numbers a and b, if $a = b$, then $b = a$

table (or chart) ..... an orderly display of numerical information in rows and columns

triangle ..... a polygon with three sides



variable ..... any symbol that could represent a number

width (w) ..... a one-dimensional measure of something side to side