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6 Student Glossary for the 2017 Kansas Mathematics Standards

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absolute value 4 -4 -3 -2 -1 0 1 2|2| = 2 |-4| = 4 |0| = 0

the magnitude of a number without regard to its sign - it's distance from zero

additive identity property of zero 8 + 0 = 8 $0 + \frac{1}{2} = \frac{1}{2}$

when you add 0 to any number you end up with that number

area

The area of the TV screen is 15 square units.



the number of square units needed to cover a given surface



coefficient -4x - 7 7n + 87 is the coefficient -4 is the coefficient

the number by which a variable is multiplied

commutative property

5+3 = 3+5

$\frac{1}{2} \times \frac{1}{4} = \frac{1}{4} \times \frac{1}{2}$

numbers may be added or multiplied together in any order without changing the answer

complex fraction



a fraction $\frac{A}{B}$ where A and/or B are fractions (B cannot equal zero)

coordinates



an ordered pair of numbers (x, y) that gives the location of a point on a coordinate plane

coordinate grid/plane



the plane formed by two perpendicular number lines intersecting at their zero points used for displaying the location of coordinates

distributive property of multiplication over addition

$$4(2+3) = 4x2 + 4x3$$

 $123 = (1 \times 100) + (2 \times 10) + (3 \times 1)$

division

component parts: dividend ÷ divisor = quotient



the operation of making equal groups to find out how many in each group or how many groups

equation 8 + 2 = 10 $5 \times 5 = 100 \div 4$ 20 = 18 + 2

a mathematical sentence where the left side of the equal sign has the same value as the right side of the equal sign



having the same value

expression 6 x 9 $(12 \div 3) + 2$ 20 - *y*

a mathematical phrase made up of numbers, variables, operational symbols, and/or parentheses



• Finding what to multiply to get an expression.

Example: 2y+6 = 2(y+3), so the factors of 2y+6 are: 2 and (y+3)



a part of a whole (region, line or set); the name for a number written in the form $\frac{a}{b}$ (e.g. $\frac{1}{4}$) A fraction may also be used to represent division.

frequency table

How Students Get to School

| Bike | 1111 |
|------|----------|
| Walk | 11 |
| Bus | ₩I I |
| Car | TH TH II |

a table that shows how often that data point occurred (tally marks are commonly used)



a fraction with a numerator that is greater than or equal to its denominator

inequality 4 + 3 < 5 + 7 2y > 14

a number sentence not equal in size, amount, or value (usually one of the following symbols is used <,>,≤,≥,≠)

independent variable Example:

Melissa and her friends are at an arcade and are redeeming their tickets for prizes. The number of tickets (t) they have won determines how many prizes (p) they can get.

(t) the number of tickets is the independent variable.

a variable (often x) whose value does not depend on that of another



- Mathematical equations called functions use the input and output to replace the variables in an equation. The input is the known variable, while the output is the solution.
- Inputs (x) are numeric values to which a procedure is applied, producing an output (y), which is also a numeric value.

input/output table

| in | out |
|----|-----|
| 2 | 8 |
| 3 | 9 |
| 5 | |
| 9 | |

a table that shows an output value for each input value

integers ...-3, -2, -1, 0, 1, 2, 3...

the set of whole numbers and their opposites: ..., -2, -1, 0, 1, 2, ...

least common multiple

Two methods to find the least common multiple include:

List the prime factors of each Factors of 24: 24, 48, 72, 96, 120, ...
 Identify the groups of factors with greatest frequency for each
 Multiply those groups of factors

Prime factors of 18: $2 \times 3 \times 3$ Prime factors of 24: $2 \times 2 \times 2 \times 3$

The least common multiple either way is 2 x 2 x 2 x 3 x 3 or 72 1. Start listing multiples of each 2. Identify the smallest multiple in convisible by both original numbers Easters of 18, 18, 26, 54, 72, 00

Factors of 18: 18, 36, 54, 72, 90, ...

Like Term<u>s</u>

| Like terms | Unlike terms |
|--------------------------------------|-------------------------------------|
| 2x, -7x | 2x, -7y |
| -8x ² , 3x ² | -8x ² , 3x |
| 13xy, -7xy | 13xy, -7xz |
| 5x ² y, 3x ² y | 5x ² y, 3xy ² |
| x, 4x | x, 4 |

 Terms whose variables (and their exponents such as the 2 in x²) are the same.

Example: 7x and 2x are like terms because the variables are both "x" But 7x and 7x² are NOT like terms (they are Unlike Terms)

mean

Set of Data: {2, 3, 5, 5, 6, 6, 6, 8, 10, 12} Mean: (2+3+5+5+6+6+6+8+10+12)/10 = 6.3

the sum of a collection of numbers divided by the number of numbers in the collection

measure of center

2, 3, 5, 5, 6, 6, 6, 8, 10, 12 Mean: (2+3+5+5+6+6+6+8+10+12)/10 = 6.3

2, 3, 5, 5, <u>6</u>, <u>6</u>, <u>6</u>, 8, 10, 12 Median: 6

2, 3, 5, 5, 6, 6, 6, 8, 10, 12 Mode: 6

the value representing the central position or middle value of a data set (usually the mean, median or mode)

median

Set of Data: {2, 3, 5, 5, 6, 6, 6, 8, 10, 12} Median: 6

Set of Data: {1, 2, 3, 6, 6, 6, 8, 10, 12} Median: 6

the middle value in a list of numbers in numerical order

mixed number $3\frac{1}{2}$ 2 3

a quantity written with an integer and a fraction

mode

Set of Data: {2, 3, 5, 5, 6, 6, 6, 8, 10, 12} Mode: 6

the value that appears most often in a set of data

multiple

multiples of 3 3, 6, 9, 12, 15, 18 multiples of 6 6, 12, 18, 24, 30

the product of any number and a counting number is a multiple of that number

multiplicative identity property of one

7 x 1 = 7 n x 1 = n n x 1 = n

when a number is multiplied by 1, the product is that number

negative numbers



numbers less than zero



an arrangement of polygons joined at the edges which represent the faces of a 3-dimensional figure

multiple

multiples of 3 3, 6, 9, 12, 15, 18 multiples of 6 6, 12, 18, 24, 30

the product of any number and a counting number is a multiple of that number

Part-to-Part Ratio



a comparison of two values where each is a part of the whole

Part-to-Whole Ratio

Types of Ratio Comparisons Part to Whole





Can also be written 3/8 or 3:8

The ratio of kittens to total pets ' is 3 to 8. The ratio of puppies to all pets

is 5 to 8.

Il pets written 5/8

Can also be written 5/8 or 5:8

a comparison of two values where one is a part of the whole and the other is the whole.



any 2-dimensional shape that lays in a single plane a flat surface extending infinitely in all directions

positive numbers



numbers that are greater than zero



a 3-dimensional figure whose base is a polygon and whose other faces are triangles that share a common vertex * A pyramid is named by its base.



one of four equal parts of a coordinate plane created by the intersection of the x and y axes

range Set of data: {89, 73, 84, 91, 87, 77, 94}

largest - smallest = 94 - 73 = 21

the difference between the largest and smallest values in a set of data

ratio



Can be written with a fraction bar, colon or the word "to"

2 circles to 3 squares

a comparison of two values using division

rational number -0.1 0.001 1.5 0.222

a number that can be written as a ratio



a 3-dimensional figure with two identical, parallel faces (bases) that are polygons; the remaining faces are parallelograMS and *are perpendicular* to the faces (bases)
* A prism is named by its base. A triangular prism has a triangle as its base and a rectangular prism has a rectangle as its base.

right rectangular pyramid



a 3-dimensional figure whose base is a rectangle and whose other faces are triangles that share a common vertex: if the vertex lies on the line perpendicular to the base at its center, the pyramid is called a right rectangular pyramid

scale drawing



a drawing that shows a real object with accurate sizes reduced or enlarged by a certain amount (called the scale)



the total area of the surface of a three-dimensional object

unit rate



a comparison of two quantities expressed with a denominator of one

variable 5 + n = 7 n is the variable

a letter or symbol that represents a number

zero pair



a pair of numbers whose sum equals zero