

Math Terms (A-F)

Absolute Value

The distance from zero to a point on the number line; uses the $||$ symbol.

Both -4 and 4 are four units away from zero on the number line, so $|-4|=|4|=4$

Algebraic Expression

A group of mathematical symbols that expresses a value.

17, $-2a$, and $3x^2+14x-6$ are all algebraic expressions.

Bivariate Data

A set of data that involves two variables.

The heights and corresponding shoe sizes for a group of students is a bivariate set of data.

Changes in Parameters

Change or changes in the numerical values in an expression or equation; should include a description of the effect had by the change.

The change in parameter from 9 in the function $y=2x+9$ to -4 to the function $y=2x-4$ shifts the graph of the function down 13 units.

Domain

All the possible values for the independent variable in a function.

For the function $f(x)=\frac{2}{5-x}$ the domain is all real numbers except $x=5$ because x can be any value except 5; division by zero is undefined.

Equation

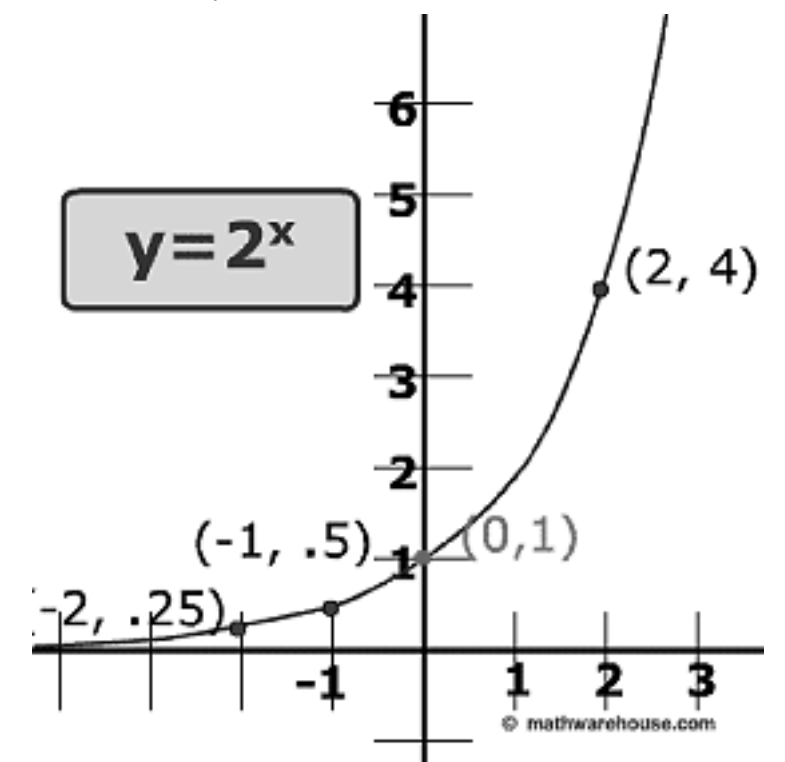
A statement that two mathematical expressions are equal; uses the "=" symbol.

$7x(x+9)=7x^2+63x$ states that the two expressions, $7x(x+9)$ and $7x^2+63x$, are equal.

Function, Exponential

A function in the form $y=a^x$ where $a>0$ but $a\neq 1$.

The graph of an exponential function is a curve.

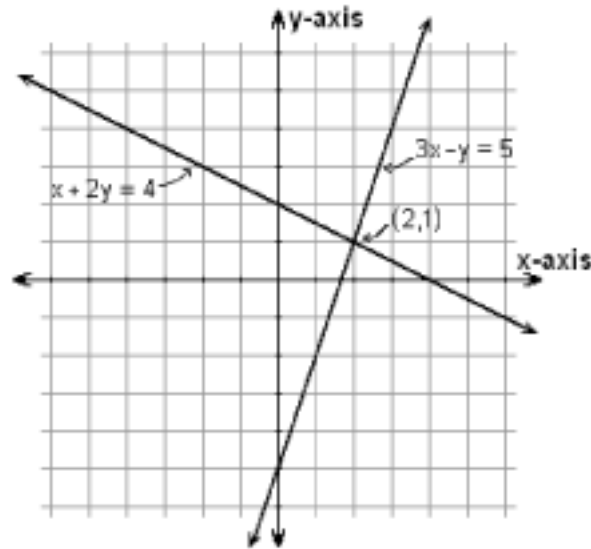


Math Terms (F-L)

Function, Linear

A function that can be written in the form $y=mx+b$, where x and y are the two variables.

The graph of a linear function is a straight line.



Inequality

A comparison of the value of two or more expressions; uses the $<$, $>$, \leq , \geq , or \neq symbols.

$y < 3x - 4$ and $3x \leq 5 - x < 19$ are both inequalities and describe the possible values of x .

Integers

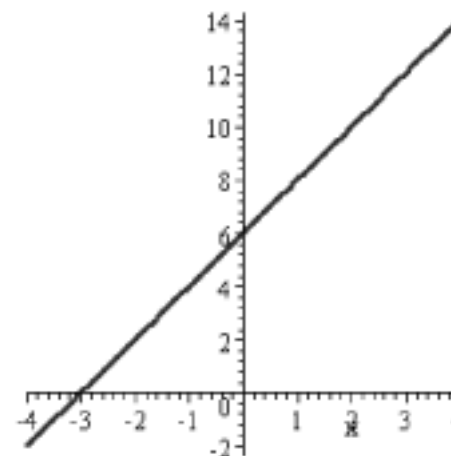
All the whole numbers, their opposites, and zero.

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

Intercept

The point(s) where the graph of a function crosses the x -axis and/or y -axis on a coordinate grid.

In the graph of the function $y=2x+6$, the line crosses the x -axis at $(-3, 0)$ and crosses the y -axis at $(0, 6)$.



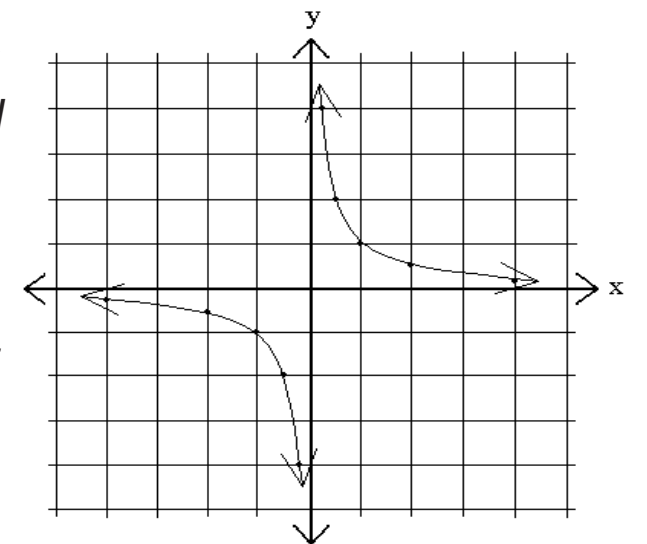
Inverse Proportion

A function in the form of $y=\frac{k}{x}$, $xy=k$, or equivalent where the product of two variables is a constant; also called an inverse relation or inverse variation.

Linear Transformation

When each value in a data set changes in the same way.

For example, \$4,000 is subtracted from the median house prices in a certain area or the salaries of all the employees for a company are increased by 4.5% of their salary.



Math Terms (P-V)

Properties of Numbers

Examples include the associative, commutative, or zero properties but unique prime factorization of whole numbers and multiple representations of the same value are also properties of numbers.

Range

All the possible values for the dependent variable in a function.

For the function $f(x)=x^2+5$, the range is all real numbers greater than or equal to 5; regardless of the value of x , the value of y will always be greater than or equal to 5.

Represent Mathematically

To show, explain, and/or describe with a graph, expression, equation, table, and/or mathematical language.

Roots

The value(s) of the independent variable when the dependent variable is equal to zero; on the graph of the function, the root is where the graph crosses the x -axis.

For the function $f(x)=x^2-9$, $f(x)=0$ when $x=3$ or $x=-3$, so the roots are 3 and -3; the graph of the function crosses the x -axis at 3 and -3.

Slope

The measure of steepness of a line; the ratio of the change in y -value to the change in x -value.

Univariate Data

A set of data that describes a single value that can vary.

The house price for each house in a neighborhood is a univariate set of data.

Variables

Symbols, usually letters, that can have different values depending on their use.

Common variables include x , y , and n .