

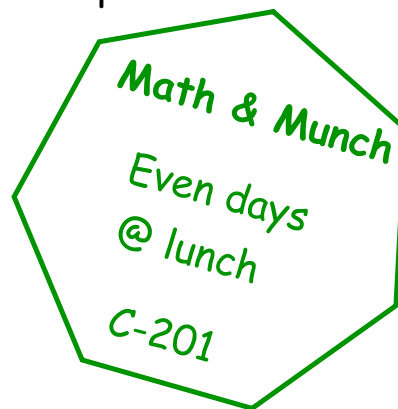
11-13-17

Aim: SWBAT define an expression and its parts.

HW: Finish Worksheet

Quiz Friday & Next Tuesday

Do Now: Worksheet



AIM: SWBAT identify parts of an expression.

DO NOW:

Read the following definitions and fill in the chart on the bottom of the page.

Expression: A mathematical sentence that is a combination of numbers and/or variables and *at least one operation*. An expression **DOES NOT** contain an equal sign or inequality symbol.

Examples: 2 2x + 3y
 2x 2x - 3y

Equation: A mathematical sentence formed by setting two expressions equal. It contains an equal sign.

Examples: 2x = 10 2(x + 5) = -20
 2x + 3 = 15 2x - 3 = -5x + 11

Inequality: A mathematical sentence containing: >, <, ≥, ≤, or ≠ to indicate the relationship between two quantities.

lefty makes less than

Inequality Symbols

> ^{is} greater than < ^{is} less than ≠ ^{is} not equal to
 ≥ ^{is} greater than or equal to ≤ ^{is} less than or equal to

Sort the following mathematical sentences into the correct category.

3 + 9 9 + 7 ≥ 16 12 + 3 = 15 x + 7 = 27 5x + 15
 72 ≠ 56 1 + 1 = 2 2(x - 9) x + 9 < 28

Expressions	Equations	Inequalities
$3 + 9$ $2(x - 9)$ $5x + 15$	$1 + 1 = 2$ $12 + 3 = 15$ $x + 7 = 27$	$72 \neq 56$ $9 + 7 \geq 16$ $x + 9 < 28$

CLASSWORK:

Variable - a letter or symbol that represents a number.

Ex: n, y, x

* **Coefficient** - a number in front of a variable

Ex: $4n \rightarrow 4$ is the coefficient and n is the variable

$5x \rightarrow 5$ is the coefficient and x is the variable

* *****When there is not a number in front of a variable, the coefficient is 1.**

Ex: $n \rightarrow 1$ is the coefficient and n is the variable

*****When there is only a negative sign in front of a variable, the coefficient is -1.**

Ex: $-n \rightarrow -1$ is the coefficient and n is the variable

Term - a part of an expression that is separated by a "plus" or "minus" sign.

Ex: $3x + 4y \rightarrow 3x$ is a term & $4y$ is a term

Constant Term - a term that has a number but no variable.

Ex: $5, 7, 100, 2,000$

Like Terms - terms with the EXACT same variables and EXACT same exponents

Ex: $5y$ and $6y$ are like terms

$5x^2$ and $6x^2$ are like terms

* 10 and -2 (constants are like terms with each other)

Non-examples: $5x$ and $3y$

$2x$ and 3

$-4x$ and $3x^2$

Place the following pairs of terms in the correct column:

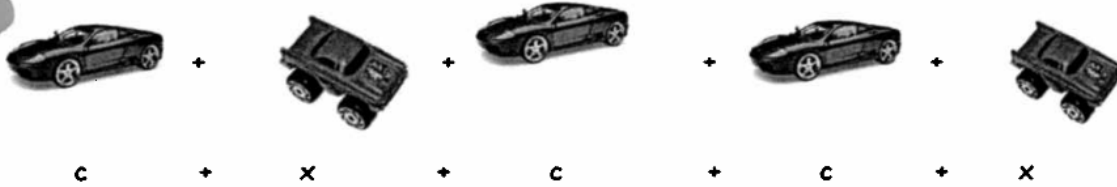
$5x$ and $13x$; $2rs$ and $5rs$; $3ab$ and $3ac$; $9a$ and $9b$; y and $7y$; 5 and 6 ; $7a$ and $10a^2$

LIKE TERMS	UNLIKE TERMS
$5x$ and $13x$ $2rs$ and $5rs$ y and $7y$ 5 and 6	$3ab$ and $3ac$ $9a$ and $9b$ $7a$ and $10a^2$

Sometimes, it helps to model a situation with a picture.

Let c represent cars.

Let x represent trucks.



You would say you have three cars and two trucks. You would NOT say that you have five toys.

An algebraic expression that represents the phrase is $3c + 2x$

Given the expression: $5x^2 + 9x + 12 - 3x^2 + 5x - 4$

- 1) List the 6 terms $5x^2$, $9x$, 12 , $-3x^2$, $5x$, -4
- 2) List the 4 coefficients 5 , 9 , -3 , 5
- 3) List the constant(s) 12 , -4
- 4) List a pair of like terms $5x^2$ and $-3x^2$
- 5) List a pair of like terms $9x$ and $5x$
- 6) List a pair of like terms 12 and -4

Identify the following in the expression: $6y + 8 + 17x - 7x - 2y$

- 7) How many terms are in this expression? 5
- 8) The coefficient of the third term 17
- 9) The coefficient of the fourth term -7
- 10) The constant term 8
- 11) A like term for the first term $-2y$
- 12) A like term for the third term $-7x$

HOMEWORK - PARTS OF AN EXPRESSION

Place each pair of terms into the appropriate column.

x and $15x$, 8 and 9 , n^2 and $5n^2$, $18xy$ and $22xz$, 12 and 15 , $17n$ and $33n^3$, $22mn$ and $12mn$

LIKE TERMS	UNLIKE TERMS

Given the expression: $12y + 21x + 15 - 5y + 2x - 9$

- 1) List the 6 terms _____, _____, _____, _____, _____, _____
- 2) List the 4 coefficients _____, _____, _____, _____
- 3) List the constant(s) _____
- 4) A like term for the first term _____
- 5) A like term for the second term _____
- 6) A like term for the third term _____

Given the expression: $14n + 29 + 13s - 22 - 3s + 4n$

- 7) How many terms are in this expression? _____
- 8) List the constant(s) _____
- 9) A like term for the first term _____
- 10) A like term for the second term _____
- 11) A like term for the third term _____
- 12) State the coefficient of the third term _____
- 13) State the coefficient of the fifth term _____
- 14) State the coefficient of the first term _____