

11-7-18

Aim: SWBAT identify the parts of an expression.

HW: Packet Page 4

Quiz Tuesday (Packet Pages 1 - 10)

Do Now: Packet Page 1

Aim: SWBAT identify the parts of an expression.

Do Now:

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

Expression: A mathematical phrase that is a combination of numbers, variables, and operations. An expression DOES NOT contain an equal sign or inequality symbol.

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

Equation: A mathematical statement that two expressions are of the same value. It contains an equal sign.

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

Inequality: A mathematical statement indicating that quantities are not equal. It contains symbols such as $>$, $<$, \geq , \leq , or \neq .

Inequality Symbols

$>$ is greater than $<$ is less than \neq is not equal to
 \geq is greater than or equal to \leq is less than or equal to

Sort the following into the correct column to categorize.

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

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 an unknown quantity.

Ex: n, y, x

Coefficient - the number placed before a letter that represents a variable

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

$5x \rightarrow \underline{5}$ is the coefficient and \underline{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

$n \quad 1n$

***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

$-n \quad -1n$

Term - a part of an expression 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 fixed value.

Ex: $5, 7, 100$

Like Terms - terms with the **EXACT SAME VARIABLES AND EXACT SAME EXPONENTS**

Ex: $5y$ and $6y$
 $5x^2$ and $6x^2$
 10 and -2

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

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

Let c represent cars.

Let x represent trucks.



You would say that there are **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 and -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

Place each pair of terms into the appropriate column.

x and $15x$

n^2 and $5n^2$

$18xy$ and $22xz$

12 and 15

8 and 9

$22mn$ and $12mn$

$17n$ and $33n^3$

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 _____