

Name Key
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Date _____
8R Period _____

Combining Like Terms

I. Terms of an expression

A) Definition: Terms are parts of a mathematical expression separated by addition or subtraction signs.

Example: $3x + 5y - 8$ has 3 terms.

B) Examples: How many terms do the following expressions have?

1) $4x + 2y$ 2

2) $6x + 3y - 8z + 6$ 4

3) $7a + 6b - 3y$ 3

II. Coefficients

A) Definition: A coefficient is a numerical factor. It is written in front of the variable (letter).

Example: $6x$ has a coefficient of 6.

** If there is no number in front of the variable, the coefficient is understood to be 1.

B) Examples: What are the coefficients of the following terms?

1) $4x$ 4

2) $-3z$ -3

3) y 1

III. Constant

A) Definition: A constant is a number without a variable.

B) Examples: 7, -3, 10, 2 and -4 are all examples of constants.

IV. Like terms

A) Definition: Like terms are terms that have the same variables with the same exponents.

B) Examples: Are the following like terms?

1) $2y$ and $-7y$ Like

2) $8x^2$ and $8y^2$ Unlike

3) $4a$ and a^3 Unlike

4) -5 and 5 Like

V. Combining like terms:

A) Steps:

1) Combine the coefficients of the like terms

2) Place the like variable and exponent next to your answer from step 1.

**** DO NOT combine the exponents ****

B) Examples:

1) $3x + 8x =$ $11x$

2) $10y^3 - 5y^3 =$ $5y^3$

3) $2c^4 + 7c^4 =$ $9c^4$

4) $5a^4 + 2a^5 =$ Can't combine, NOT like terms

5) $3x + |x + 2x =$ $6x$