

Name _____ Period Key

NOTES: COMBINING LIKE TERMS



When we use letters and numbers in mathematics we must follow a logical system for combining like terms.

IMPORTANT VOCABULARY

Constant

A constant is a number.
Its value stay the same in the math sentence.
It does not vary.

EXAMPLES:

5, -10, $\frac{1}{2}$,
-0.4, $-\frac{4}{5}$, 0.65

Variable

A letter whose value is either assigned or unknown. The values of variables do vary.

EXAMPLES:

x, y, x^2 ,
 a^3 , a^0 , z^4

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Constants can be
combined with other
constants

Variables can only
be combined with
other variables
that are their look
alikes.

EXAMPLE:

$$\underline{1} + \underline{0.5} - \underline{\frac{3}{4}} = \underline{\frac{3}{4}}$$

EXAMPLES:

$$\underline{x} + \underline{x} = \underline{2x} \text{ combined}$$
$$\underline{x^2} + \underline{x} = \underline{x^2 + x} \text{ can not be combined}$$

Summary: 1) Any constants can be combined.

2) Variables must have the same letter and the
letter must be raised to the same power.

EXAMPLES:

$$\underline{x^2} + \underline{x^2} = \underline{2x^2} \text{ combined}$$
$$\underline{x^3} - \underline{x^2} = \underline{x^3 - x^2} \text{ can not be combined}$$

Variables have COEFFICIENTS. Coefficients are the
number of x's or y's that you are dealing
with in an equation.

EXAMPLES: In $2x$, 2 is the coefficient, x is the variable.

In $4y^2$, 4 is the coefficient, y^2 is the variable.

In a , one is the coefficient, $a = 1a$.

We do not write the one. It is understood.

What is a term? it is either a single number or variable,
or it is the product of several numbers or variables
that are separated from another term by a + or -
sign in an expression. Example: $3 + 4x + 5yzw$

Let's try combining like terms:

$3, 4x$ and $5yzw$ are
all terms
separate terms

You need to have terms with the same variables and each of

those variables needs to be the same power. Then you

add the coefficients, not the POWERS!

Practice:

1) $3x + 2x + 5x = \underline{10x}$

2) $32y - 5y = \underline{27y}$

3) $4c^2 + 5c + 2c = \underline{4c^2 + 7c}$

4) $7x + 8x^2 - 3y = \underline{8x^2 + 7x - 3y}$

5) $5f^2 - 2f - 3f^2 = \underline{2f^2 - 2f}$

6) $5x^3 + 3y + 7x^3 - 2y - 4x^2 = \underline{12x^3 - 4x^2 + y}$

Next 1) Order of powers

2) terms with more than one variable

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