Combining Like Terms

Aug 26-11:43 AM

Vocabulary

Numerical Coefficient

Any number in front of a variable in a term. If there is no number in front of the variable, the numerical coefficeint is understood to be 1.

Examples

4a 10xy 1b $-6x^3$

Constant

A number on its own that does not Change

Examples

1 17 -5

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$-14 - 9m + 35m + 6$

What are the coefficients in the expression above?

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$19 - 3x + 7x - 1$

What are the constants in the expression above?

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Vocabulary

Like Terms

Terms with the exact same variable or variables raised to the same power.

Examples

4x and -10x 15xy and 17xy

$-2x^2y$ and $7x^2y$ $-9xy^3$ and $13xy^3$

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Determine whether the terms are LIKE or UNLIKE terms. Drag the correct word over the terms.

LIKE -4x and -10x	UNLIKE 13xy and 5y	UNLIKE $5x^2$ and 9x
LIKE $9x^2y$ and $4x^2y$	UNLIKE $3xy^2$ and $7x^2y$	LIKE 17ab and -21ab

LIKE UNLIKE

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Simplifying Expressions by Combining Like Terms

You can combine like terms by adding their numerical coefficients.

Examples:

1. $-5x + 9x - 12x$

$4x - 12x$

$-8x$

2. $14x + 9 - 6$

$14x + 3$

$3 + 14x$

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$-9 + 10x - 12$ $\quad$ $6x - 3 + 4x$

Are these two expressions the same? Why or why not?

$10x - 21$ $\quad$ $10x - 3$

$7y^2 + 4y$ $\quad$ $11y^2$

Are these two expressions the same? Why or why not?

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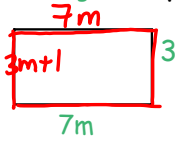
What expression represents the perimeter of this rectangle? Simplify it!



$7m + 3m + 1 + 7m + 3m + 1$

$14m + 6m$

$20m + 2$

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Guided Practice

Simplify each expression.

1. $-6x + 7x + 13x$

$14x$

2. $5x^2 - 9 - 7x^2 + 16$

$5x^2 - 7x^2 = -2x^2$

$-9 + 16 = 7$

$-2x^2 + 7$

3. $3xy + 7x - 8xy + 9x$

$-5xy + 7x + 9x$

$-3xy + 16x$

$-5xy + 16x$

4. $8a^2 + 9a - 9a^2 - 17a$

$-1a^2 + (+8a)$

$-1a^2 + 8a$

$-1a^2 - 8a$

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Work with your partner to complete the following problems.

The expressions on the right have had their like terms combined. Match each expression on the left with an expression on the right.

B	$8x - 3x$	a. $5x^2y + 2xy^2$
E	$3x + 9y - 5x$	b. $5x$
G	$-4x - 5x - 7xy$	c. $3x + 9y$
D	$6xy + 4yz - 3xy + yz$	d. $3xy + 5yz$
A	$7x^2y - 2x^2y + 5xy^2 - 3xy^2$	e. $-2x + 9y$
F	$-4x - 7xy + 8y$	f. $-4x - 7xy + 8y$
C	$8x + 9y - 5x$	g. $-9x - 7xy$

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Warm up 9/13

a) $4 + (-11) - 6 - (-5)$

$-7 - 6 + 5$

$-13 + 5 = -8$

b) $10(-2 + 6) - (-1)$

$10 \cdot 4 - (-1)$

$40 + 1$

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Attachments

Wksht 55.doc

combine-like-terms-worksheet.pdf