

Combining Like Terms

Lesson objectives

By the end of class the student will be able to simplify expressions by combining like terms.

1.1

Lesson objectives

Teachers' notes

Lesson notes

Integer Practice

$$-8 + 5$$



$$-3 - 7$$



$$5 + (-16)$$



$$12 - 13$$

$$12 + 6$$

$$-8 - 9$$

$$-4 + (-4)$$

$$-9 - (-8)$$

$$13 - 21$$

Vocabulary

$$3x + 2$$



Vocabulary

$$19 - 3x + 7x - 1$$

Which of the following numbers are constants
in expression above?

Vocabulary

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

Which of the following number(s) represents a coefficient in the expression above?



Vocabulary

Numerical Coefficient



Examples



Vocabulary

Like Terms



Examples



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

$-4x$ and $-10x$

$13xy$ and $5y$

$5x^2$ and $9x$

$9x^2y$ and $4x^2y$

$3xy^2$ and $7x^2y$

$17ab$ and $-21ab$

LIKE

UNLIKE

Like Terms Matching Game

Click on all Like Terms		$9x^2$
$2b^3$	$1x^2$	$7a^2$
$1x^2$	$5x^2$	$7x^2$

Combining Like Terms - Important Note

NOTE: The **subtraction** sign and the **negative** sign mean the same thing.

Examples:

- $4 - 9$ becomes $4 + (-9)$ as an addition problem so the subtraction symbol tells you that the 9 is negative
- $5a - 4$ becomes $5a + (-4)$ as an addition problem so the subtraction symbol tells you the 4 is negative.

Simplifying Expressions by Combining Like Terms

You can combine like terms by **adding** their numerical coefficients.

Examples:

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

2. $14x + 9 + 6x$

More Examples

3. $9a - 6 - 11$

4. $-6a - 3 - 4 + 2a$

Guided Practice

Simplify each expression.

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

2. $5x - 9 - 7x$

3. $3y + 7 - 8y + 9$

4. $-8 + 9a - 9$



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. When done move the red check inside the green box to reveal the answers.



$8x - 3x$

a. $3x + 4$



b



$3x + 9 - 5x$

b. $5x$

e



$-4x - 5x - 7$

c. $3x + 9$

g



$6x + 4 - 3x + x$

d. $4x + 4$

d



$7 - 2x + 5x - 3$

e. $-2x + 9$

a



$-x - 7x$

f. $-8x$

f



$8x + 9 - 5x$

g. $-9x - 7$

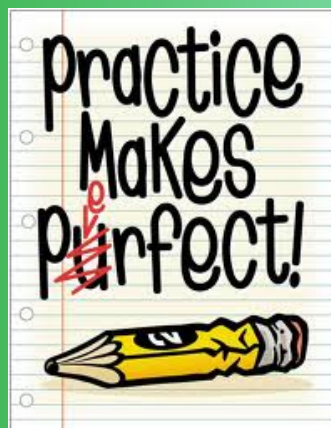
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Complete the following worksheet:

Combining Like Terms

Additional Practice and Challenge Problems



(click to open)

Guided Practice - Answers

Simplify each expression.

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

$$(-6 + 7 + 13)$$

$$14x$$

2. $5x - 9 - 7x$

$$(5x + (-7x)) - 9$$

$$-2x - 9 \text{ or } -2x + -9$$

3. $3y + 7 - 8y + 9$

$$(3y + (-8y)) + (7 + 9)$$

$$-5y + 16$$

4. $-8 + 9a - 9$

$$9a + (-8 + (-9))$$

$$9a - 17$$

$$\text{or } 9x + -17$$



Attachments

Wksht 55.doc

combine-like-terms-worksheet.pdf