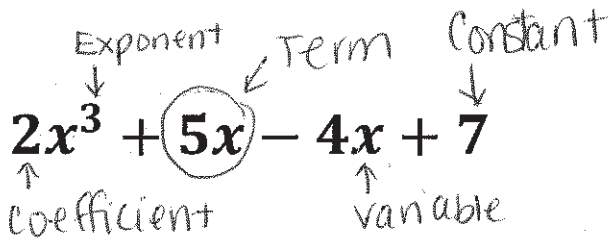
Lesson 1 Notes
Combine Like Terms

VOCABULARY



Identify terms, like terms, coefficients, and constants for each expression.

	Terms	Like Terms	Coefficients	Constants
$4e+7e-5$	4e, 7e, -5	4e, 7e	4, 7	-5
$5-4x-8+3x-2y$	5, -4x, -8, 3x, -2y	5, -8, -4x, 3x	-4, 3, -2	5, -8
$4-3h-2h+6h-9$	4, -3h, -2h, 6h, -9	4, -9, -3h, -2h, 6h	-3, -2, 6	4, -9

One way to simplify an expression is to "combine like terms."

What does it mean to combine like terms?	add or subtract terms that are similar.

You can only combine terms that have the same variables *and the same* exponents.

To combine like terms, first use the commutative property to move all like terms together. Then, combine the coefficients of the variables.

Example 1:

$2a + 3b - 4a$

$2a - 4a + 3b$

$-2a + 3b$

Example 2:

$14m - 3n^2 - 2n^2 + 3m$

$14m + 3m - 3n^2 - 2n^2$

$17m - 5n^2$

Example 3:

$5x + 4x - 6 + 5x^2$

$5x^2 + 5x + 4x - 6$

$5x^2 + 9x - 6$

***Note: all of your answers should be arranged so that the variables are in* alphabetical *order* first *then in order from greatest to least* exponent.

Watch out for these common mistakes! Circle the mistakes below:

Mistake #1:

$a^2 - 4a + 5a$

$2a^2$

You can only combine terms when the variable has the same exponent

Mistake #2:

$3y + 4x^2 - 3y + 5y$

$3y - y + 5y + 4x^2$

$7y + 4x^2$

You should always put the variables in alphabetical order, then by exponent

Mistake #3:

$3h + 14g - 5h + 5g$

$3h + 5h + 14g - 5g$

$8h + 9g$

$9g + 8h$

You should always move the negative sign along with the term that is after it.

Did you hear the one about the acupuncture?

I	T		W	A	S		A		J	A	B					
1	2		3	4	5		6		7	8	9					
W	E	L	L		D	O	N	E	!							
10	11	12	13		14	15	16	17								

1. $2m + 3m^2 - 4m$	2. $2x + x - 4y$ $3x - 4y$ T	3. $2m + 4m - 3m^2$ $-3m^2 + 6m$ W	4. $2y + 14x - 7x + 9y$
5. $8n - 4n^2 + 8n$ $16n - 4n^2$ S	6. $11g - 9g + 8g$ $10g$ A	7. $3m^2 - 2m + 4m$ $3m^2 + 2m$ J	8. $20 + 10q + 3q - 4$ $13q + 16$ A
9. $4xy + x + 2xy$ $6xy + x$ B	10. $6m^2 + 6m - 9m^2$ $-3m^2 + 6m$ W	11. $3n - 6mn + 2n$ $-6mn + 5n$ E	12. $\frac{3}{2}x - y + \frac{1}{2}x + 3y$ $2x + 2y$ L
13. $y + x + y + x$ $2x + 2y$ L	14. $8n + 4n^2 - 8n$ $4n^2$ D	15. $5 + 5mn - 11mn$ $-6mn + 5$ O	16. $15y + 6y - 3x + xy$ $-3x + xy + 21y$ N
17. $3xy - 5xy + 21y$ $-2xy + 21y$ E			

I. $3m^2 - 2m$	N. $-3x + xy + 21y$	A. $7x + 11y$
S. $-4n^2 + 16n$	W. $-3m^2 + 6m$	E. $-6mn + 5n$
E. $-2xy + 21y$	J. $3m^2 + 2m$	A. $13q + 16$
O. $-6mn + 5$	B. $x + 6xy$	L. $2x + 2y$
T. $3x - 4y$	A. $10g$	D. $4n^2$