Warm Up September 12, 2018

1.) Which expression has the greatest value?

A. $(3+4)(2^2 - 5)$

$(7)(4-5)$

$(7)(-1) = -7$

B. $13 + a^2 - a$, when $a = 7$

$13+(7)^2-7$ $62-7$

$13+49-7$ 55

2.) Complete the magic square if the magic sum is 4. Each row and each column of a magic square adds up to the same number, 4.

3	−3	4
3	2	−1
−2	5	1

Integer Operation Quiz RECAP

$18-(-6)$

$18+6$

24

$6-(-15)$

$6+15$

21

$|-8|-(-3)$

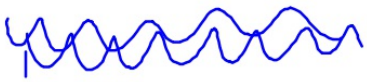
$8-(-3)$

$8+3$

11

$20-11=9$

$9+5=14+h$



$\rightarrow 200$ ft.

-450

$25(10)=250$

$-200-250$

Combining Like Terms Exploration

When I say go,

- Find the other students that have a card that looks similar to yours.

- Each "term group" should assemble into a separate corner.

- Order your terms from least to greatest.

- Add the terms together in that order.

- Write your final answer on the white board.

- The team that holds their board up first WINS!

Exploration Solutions

x^2	[redacted]	xy
$13x^2$	$-4+5=1$	$-7xy$ [redacted]
x	$-4x+5x=x$ [redacted]	Constant
0	$-4x^2+5x^2=x^2$	28

$$13x^2 - 7xy + 28$$

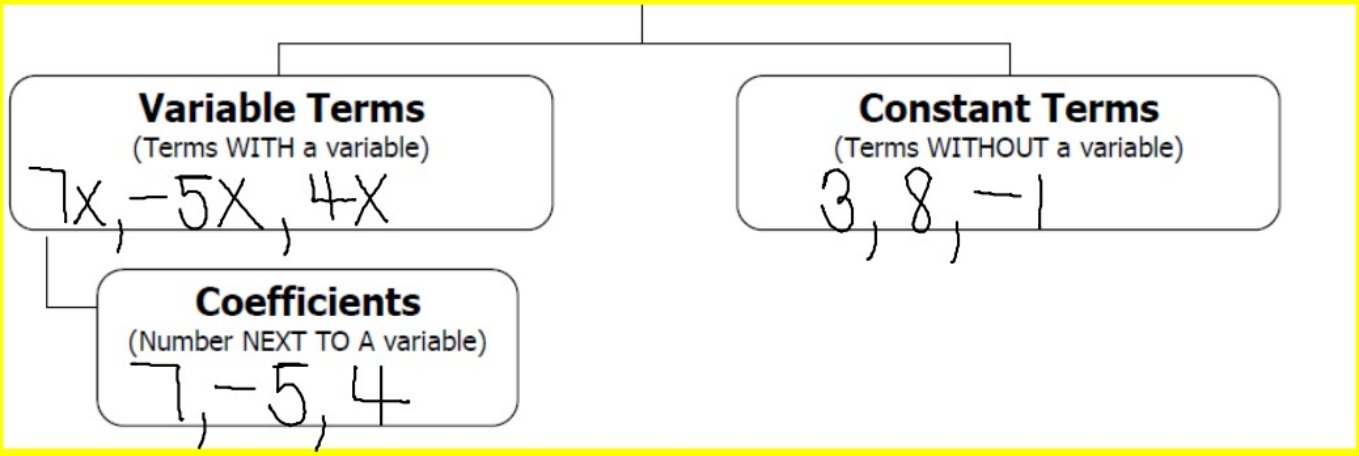
[redacted]

Combining Like Terms

7x + 3 – 5x + 8 + 4x – 1

Break down the expression into the categories below.

Term: parts of an expression separated by + or -.



You can simplify an expression by combining like terms!

7x + 3 – 5x + 8 + 4x – 1 = 6x + 10

7 − 5 + 4 = 6

3 + 8 − 1

Simplify the expressions below by combining like terms.

1.) $3x + 6x =$ 9x

2.) $9a - 10a =$ $-1a$ or $-a$

3.) $7m - 5m - 6 =$ $2m - 6$

4.) $9 - 6x + 5 =$ $-6x + 14$

5.) $7p - 1 - 9p + 5 =$ $-2p + 4$

6.) $5h - 6 - 8 + 7h =$ $12h - 14$

with Exponents

Terms with the same exponents or combination of variables and exponents are considered like terms. When combined, be sure to NOT change their exponents!

Examples

$5^2 = 25$

$5x^2$

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

$12x^2$

10. $-15n^5 + 4n^5$

$-11n^5$

11. $8c^3 - 7c^3 + 16c^3$

$17c^3$

12. $8k^2 - k - 5k + 7 - 2k^2$

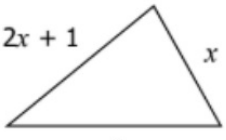
$6k^2 - 6k + 7$

Geometric Applications

add all sides

Directions: Give the perimeter of each figure as a simplified expression.

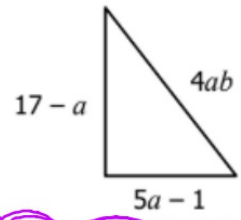
17.



$3x + x + 2x + 1$

$\therefore \quad 6x + 1$

18.



$5a - 1 + 17 - a + 4ab$

$4a + 16 + 4ab$

The Distributive Property

Let a, b, and c be real numbers.

$a(b + c) = ab + ac$
$a(b - c) = ab - ac$
$-a(b + c) = -ab - ac$

Write in simplest form using the distributive property.

1. $7(x + 4)$

$7(x)+7(4)$
$7x+28$

2. $2(b - 3)$

$2(b)-2(3)$
$2b-6$

3. $-4(y + 3)$

$-4(y)-4(3)$
$-4y-12$

4. $-5(m - 2)$

$-5(m)-5(-2)$
$-5m+10$

5. $-(y - 9)$

$-1(y)-1(-9)$
$-y+9$

6. $8(4 - b)$

$8(4)+8(-b)$
$32-8b$

Distribute AND Combine!	To **simplify an expression** means to ensure there are **no parentheses** and **no like terms**. In order to do this, distribute first (if needed),then combine like terms.	
Examples	**19.** $8(2x - 3) - 6x$	**20.** $9(2k - 4) - 2(7k - 12)$
	21. $10 - (y - 6) - y$	**22.** $6 + 8(4w - 7) - (2w + 1)$