2 Like Terms vs Unlike Terms

January 1, 2020 9:22 PM

Write the following orders as algebraic expressions. (polynomials)

I'd like four hamburgers, six orders of French fries, a large soda, two medium sodas, and an extra large soda. $4h + 6f + 1l + 2m + 1x$

I want three cheeseburgers, one hamburger, a small soda, two fries, a medium soda, and another hamburger. $3c + 1h + 1s + 2f + 1m + 1h$
$= 3c + 2h + 1s + 2f + 1m$

I want a cheeseburger and an order of fries with a medium soda, my son wants two hamburgers an order of fries, and a medium soda, and my daughter wants a cheeseburger, an order of fries and a large soda. Oh yes, my husband wants two orders of fries, a cheeseburger and a large soda. $1c + 1f + 1m$
$+ 2h + 1f + 1m + 1c$
$+ 1f + 1l + 2f + 1c + 1l$
$= 4c + 2l + 5f + 2m + 2h$

Let's see… I think I'd like three hamburgers and a cheeseburger, three fries, a large soda, two medium sodas, and an extra large soda. Add another order of fries on that, and make one of those hamburgers another cheeseburger.

Day 2

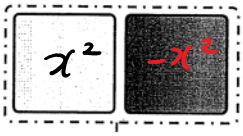
5.2 – Like Terms & Unlike Terms

Focus: Simplify polynomials by combining like terms

Recall: Last year when we added and subtracted integers we learned about the concept of zero pairs.

Value: 0

Predict the value of the following:

a) 

Value: 0

b) 

Value: 0

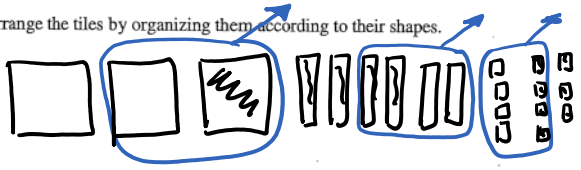
c) 

Value: 0

Ex. 1: 

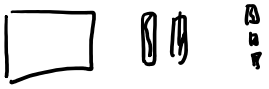
State the Polynomial: $2x^2 - 4x + 4 - x^2 + 2x - 7$

a) Rearrange the tiles by organizing them according to their shapes.



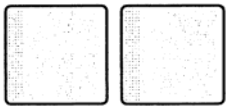
b) Remove zero pairs.

c) What polynomial remains?



$x^2 - 2x - 3$

Terms that can represented by tiles that are of the same size and shape are called like terms.

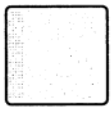


$2x^2$

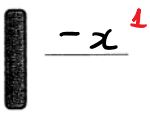
$-x^2$

Symbolically, terms that have the same variables, raised to the same exponents are called **like terms.**

Terms that are represented by tiles that are of the different size and shape are called **unlike terms.**



x^2



$-x$ 1

$3x^2 + x = 4x^2$

$= 4x$

We **can not** combine unlike terms.

Steps

To simplify a polynomial, we group like terms and remove zero pairs.

We can not combine unlike terms.

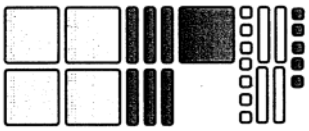
Steps

To simplify a polynomial, we group like terms and remove zero pairs.

To symbolically simplify a polynomial, combine like terms by adding the coefficients of like terms.

We can only combine like terms.

Ex. 2: Use Algebra tiles to simplify the following polynomial.



Tiles:

Polynomial: $4x^2 - 6x - x^2 + 7 + 4x - 5$

$4x^2 - x^2 - 6x + 4x + 7 - 5$

$3x^2 - 2x + 2$

Symbolically:

Like Terms? (Yes or No)

a) xy yx ✓

b) x^1 x^2 No

c) $2x$ x ✓

d) x $-x$ ✓

e) $-3x^2$ $8y^2$ No

xy

$xy + yx = 2xy$

Ex. 3: Simplify: $12x^2 - 13 - 5x + 6 - 10x - 16x^2$

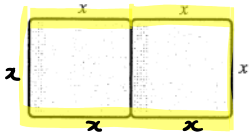
$12x^2 - 16x^2 - 5x - 10x - 13 + 6$

$-4x^2 - 15x - 7$

add the sides

Ex. 4: Write a polynomial to represent the perimeter of each rectangle.

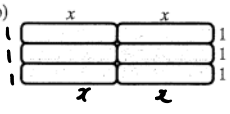
a)



$x + x + x + x + x + x$

$= 6x$

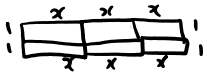
b)



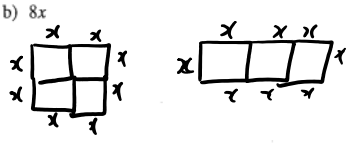
$4x + 6$

Ex. 5: Each polynomial represents the perimeter of a rectangle.
Use algebra tiles to model the rectangle.

a) $6x + 4$



b) $8x$



Ex. 6: Simplify: $3xy - y^2 + 4x - 5xy - 6y - 8y^2$

$3xy - 5xy - y^2 - 8y^2 + 4x - 6y$

$-2xy - 9y^2 + 4x - 6y$

Assignment:
- "Algebra Dude Art" Like-Terms Assignment
- Sec. 5.2 Like vs Unlike Terms Worksheet
- [illegible]

Assignment: • "Algebra Dude Art" Like-Terms Assignment
• ~~Sec. 5.2~~ Like vs Unlike Terms Worksheet
• "Why Did the Donkey Get a Passport?" Worksheet (Choose 10 questions to do).

HW Assignment

~~Section 5.2~~ pg. 222 # 6 – ~~8, 10, 11ace, 13, 14, 18a, 19, 20~~

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