Polynomials

Agenda
Warm-Up
Notes - Foldable
Activity - Dice Game
HW - Practice (1 page)

Reminders
- Extra Credit: Exponents Puzzle due Thursday
- Quiz over Exponents AND polynomials Thursday

Objective
You will classify polynomials based on their number of terms. You will perform the stated operation between two or more polynomials.

Warm-Up (Monday)

Simplify the following expressions completely.

1. $\dfrac{a^5 c^3 e^0}{b^{-2} d^{-3}}$ $= a^5 c^3 b^2 d^3$

2. $\left(-3c^7 d^3\right)^2$ $= 9c^{14} d^6$

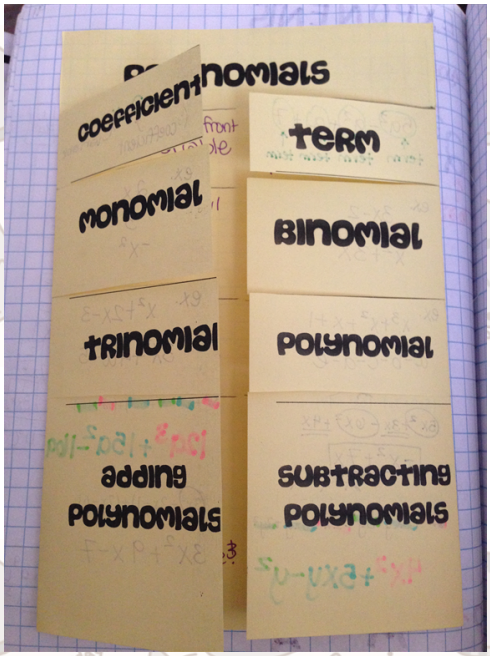
$(-3c^7d^3)(-3c^7d^3)$

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

Classroom Reminders

- Participate actively - raise your hand to speak
- Phones/earbuds only during designated times. I will take your phone.
- Respect everyone
- Clean up your area before you leave (including trash buckets)
- Notebook is either a zero or a 100

Foldable page p. 92



Fold sides into middle Cut along solid lines.

**Be careful of problems inside bottom 2 flaps!!

Polynomials

Coefficient — The number in front of the variable.

$2x$ (2 = coefficient, x = variable)

term — A single number or variable OR #'s and variables multiplied together. Separated by a + or −.

$5a^3 - a^2 + a + 7$ (term, term, term, term)

monomial — Expression with ONE term.

$2x$, $-x^2yz$, 2 (mono → one)

binomial — Expression with TWO terms.

$3x - 4$, $a^2b + 3$ (bi → two)

trinomial — Expression with THREE terms.

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

polynomial — Expression with 4 OR more terms.

$-2x^3 + x^2 - 4x + 5$, $a+b+c+d+e+f$ (poly → many)

adding polynomials

$(5a^3 + 3a^2 - 6a + 12a^2) + (7a^3 - 10a)$

$12a^3 + 15a^2 - 10a$

$(3x^2 + 2x - 1) + (7x - 6)$

$3x^2 + 9x - 7$

Combine like terms

Like terms: same variables AND same exponent

$2x^2 + 3x^2 = 5x^2$

PMA

subtracting polynomials

Distribute the negative to the 2nd polynomial

Then... Combine like terms

$(5x^2 + 3x) - (6x^2 - 4x)$

$5x^2 + 3x - 6x^2 + 4x$

$-x^2 + 7x$

$(6x^2 + 8xy - 3y^2) - (2x^2 + 3xy - 2y^2)$

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

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

Activity - Polynomial Die!

You and your shoulder partner will receive a die with monomials on each side. For each row on the table, you will roll your die 4 times, recording each roll. Then you will combine any like terms and classify your polynomial as a monomial, binomial, or trinomial.

	1ST ROLL	2ND ROLL	3RD ROLL	4TH ROLL	COMBINE LIKE TERMS	NAME
1	$4x^2$	-6	$+1$	x	$4x^2+x-5$	trinomial
2						
3						
4						
5						
6						

You will then perform the stated operation with the polynomials you found in your table. Use the polynomial in the "combine like terms" column. Don't forget to distribute the negative for subtraction!!

Due by the end of the period!

Worth 25 points of your weekly in-class grade.

Tonight's HW: 1 page!

Algebra I - Unit 7: Topic 2 – Adding and Subtracting Polynomials

Practice – Adding and Subtracting Polynomials **pp 476 – 489**

Name _____ Date _____ Period _____

Classify each polynomial according to the number of terms.

1. $5n^3 + 4n$
2. $4y^6 - 5y^3 + 2y - 9$
3. $3b^7 + 9b^5 + 2b^7 - 5$
4. $\frac{1}{4}wx^5y^2z^2$

Simplify the following polynomials.

5. $3x^3 - 4 - x^3 + 1$
6. $4.4x^2 + 3.1x - 6.3x - 2x^2$
7. $(2t^2 - 8t) + (8t^2 + 9t)$
8. $(-7x^2 - 2x + 3) + (4x^2 - 9x)$
9. $(3s^4 + 4s) - (-10s^4 + 6s)$
10. $(3x^2 - x) - (x^2 + 3x - x)$
11. $(x^2 - 3x + 7) + (2x - 5 + 3x^2) - (x^2 - 6x)$
12. $(3x^2 - 2x + 8) - (x^2 - 4) + (-4x^2 - 5x - 2)$

12. The recreation field at Huffines Park is shaped like a rectangle with a length of $15x$ yards and a width of $10x - 3$ yards. Write a polynomial in simplest form for the perimeter of the field. Then calculate the perimeter if $x = 2$.

13. Darnell and Stephanie have competing vending machine businesses. Darnell's profit can be modeled with the polynomial $c^2 + 8c - 100$. Were c is the number of items sold. Stephanie's profit can be modeled with the polynomial $2c^2 - 7c - 200$. Write a polynomial in simplest form to show how much money they can expect to earn if they decided to combine their businesses.

Quiz Averages

2nd - 59

3rd - 60

4th - 50

5th - 64

7th - 60

Extra Credit Exponents Puzzle (for +50 points on quiz) is due Thursday.

Thursday's quiz also covers exponents.

Tutoring: Tues PM
Wed AM/PM
Not available Tues or Thurs AM