

# Adding & Subtracting Polynomials

## Agenda

Warm-Up

Notes - Foldable

Activity - Dice Game

HW - Practice

#1-12

## Reminders

- Test Friday!
- Signed PR due Fri
- All Unit 6 HW due Friday!

## Essential Questions

How do I classify polynomials?

How do I add & subtract two polynomials?

## Warm-Up Monday

Simplify the following expressions completely.

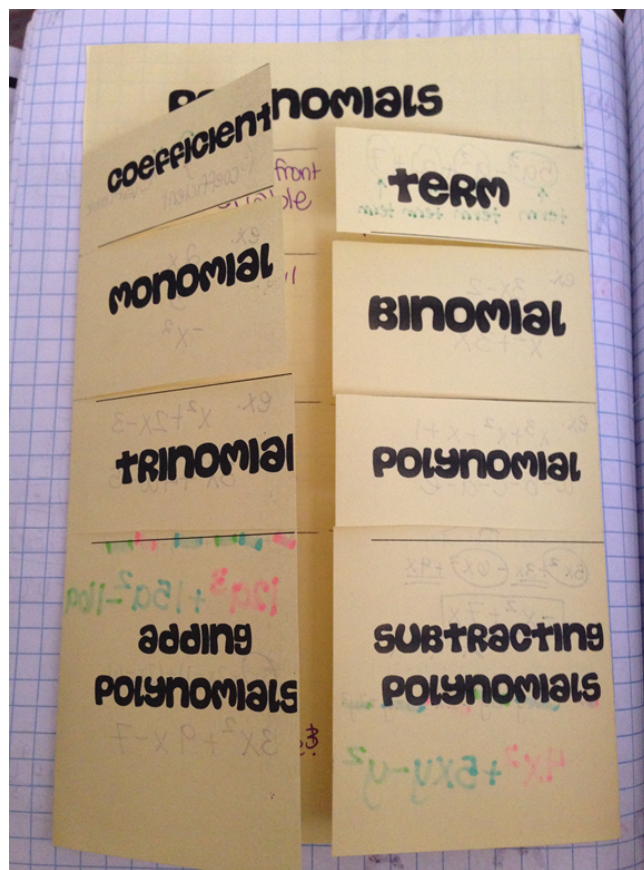
$$1. \quad (-3c^7d^3)^2 = (-3c^7d^3)(-3c^7d^3) = \boxed{9c^{14}d^6}$$

$$2. \quad \underline{\underline{-x^2}} - 2x + 3x + \underline{\underline{4x^2}} = 3x^2 + 1x$$

# Foldable page p. 74

Essential How do I classify polynomials?

Questions How do I add & subtract two polynomials?



Fold sides into middle Cut along solid lines.

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

<b>POLYNOMIALS</b>	
<b>COEFFICIENT</b>	<b>term</b>
<b>monomial</b>	<b>binomial</b>
<b>trinomial</b>	<b>polynomial</b>
<b>adding POLYNOMIALS</b>	<b>SUBTRACTING POLYNOMIALS</b>

# POLYNOMIALS

$2x$ variable coefficient	The number in front of the variable.	A single number or variable OR #'s and variables multiplied together. Separated by a + or -	$5a^3 - a^2 + a + 7$ 4 terms
ex. $2x$ $(abc)^2$ 7	Expression with <u>ONE</u> term.	Expression with <u>TWO</u> terms.	ex. $x - 2$ $3x^2 + x$
ex. $a + b - c$ $2x^2 - x + 1$	Expression with <u>THREE</u> terms.	Expression with <u>4 or more</u> terms.	ex. $x^3 + x^2 + x + 1$ $a + b - c + d - e$
<del><math>(5a^3 + 15a^2 - 10a)</math></del> $12a^3 + 15a^2 - 10a$ trinomial	combine like terms * must have same letter AND same exponent	distribute the negative to 2nd set of parenthesis then... combine like terms	<del><math>(5x^2 + 3x) - (6x^2 - 4x)</math></del> $-x^2 + 7x$ binomial
<del><math>(3x^2 + 2x - 1) + (9x - 6)</math></del> $3x^2 + 9x - 7$ trinomial			<del><math>(6x^2 + 8xy - 3y^2) - (2x^2 + 5xy - 2y^2)</math></del> $4x^2 + 3xy - y^2$ trinomial

# 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.

	1 <sup>st</sup> ROLL	2 <sup>nd</sup> ROLL	3 <sup>rd</sup> ROLL	4 <sup>th</sup> ROLL	combine like terms	Name
1						
2						
3						
4						
5						
6						

And 2 bullets  
(1st & 3rd)

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!



## Tonight's HW: 1 page!

Algebra I - Unit 6: Topic 2 – Adding and Subtracting Polynomials

**Practice – Adding and Subtracting Polynomials**

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

11. 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  $x = 2$ .

12. 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.



# HW Help: Adding & Subtracting Polynomials

**NO WORK = NO CREDIT = NO KIDDING**

## Help...

#1-4. Remember to combine like terms before classifying. One term = mono, two terms = bi, three terms=tri, and 4+ terms = polynomial.

#5-10. Like terms have the same letter & same exponent...then you just add the coefficients! If you subtract a polynomial, you must distribute the negative to EVERY term in the parenthesis!

11. To find perimeter ADD all the sides. Then plug in  $x=2$  into your simplified expression.

12. Combining would be ADDING. So add the 2 polynomials!!

## Solutions....

### Answers:

1. Binomial
2. Polynomial
3. Trinomial
4. Monomial
5.  $2.4x^2 - 3.2x$
6.  $10t^2 + t$
7.  $2x^2 - 3x$
8.  $-3x^2 - 11x + 3$
9.  $3x^2 + 5x + 2$
10.  $-2x^2 - 7x + 10$
11.  $P = 50x - 6$  ; 94 yards
12.  $3c^2 + c - 300$

