

Agenda

Homework:

- Adding/Subtracting Polynomials WS
- AM

Materials:

- Notebook
- Calculator

DO NOW

- On the next left hand page of your notebook:

SIMPLIFY the following

① $2x + 7y - 4x - 2y + 3x$

② $-3m - 4(2m - 3)$

Do Now

$$\textcircled{1} 2x + 7y - 4x - 2y + 3x$$

$$\textcircled{2} -3m - 4(2m - 3)$$



Set up Toolbox Notes (see example below)

Name: Date: Period: Topic: Adding and Subtracting Polynomials	
Toolbox: <i>(leave about 8 lines)</i>	Summary/Reflection:
Study Questions:	Workspace:



Toolbox

- To **add** polynomials:
 1. Add the COEFFICIENTS of LIKE terms
- To **subtract** polynomials:
 1. Replace each term of the polynomial being subtracted with its additive inverse (KCC).
 2. Add the COEFFICIENTS of LIKE terms

Recap: Linear and Nonlinear Functions

- A linear function is a function (equation) whose resulting graph is a **continuously STRAIGHT LINE**
- A **nonlinear function** is a function that is NOT linear (**not a straight line**)

Determine if the following is a polynomial. If it IS state (1) the degree, (2) whether it is a monomial, binomial, or trinomial. If it is NOT, explain why.



$$5x^3 + 2x$$

- Yes it is a polynomial
- Degree: 3
- binomial

$$3x^{-2} + 2x$$

- Equivalent to $3/x^2 + 2x$
- NOT a polynomial, because a monomial cannot have a variable in the denominator

*to find the degree of a term with TWO or MORE variables, ADD the exponents of all of the variables in the term.



Write the following equation in **standard form**: $-12 + 5z^4 - 2z$ and identify the leading coefficient and degree.

$$-12 + 5z^4 - 2z$$

From highest to lowest degree monomial



What is the leading coefficient? **5**

What is the degree? **4**



Find the sum of the polynomial
 $(2x^2 + 5x - 7) + (3 - 4x^2 + 6x)$

Vertical Method

$$\begin{array}{r} 2x^2 + 5x - 7 \\ (+) -4x^2 + 6x + 3 \\ \hline \end{array}$$

$$-2x^2 + 11x - 4$$

Make sure they are in standard form

Make sure the like terms line up

Horizontal Method

$$(2x^2 + 5x - 7) + (3 - 4x^2 + 6x)$$
$$(2x^2 - 4x^2) + (5x + 6x) + (-7 + 3)$$
$$-2x^2 + 11x - 4$$



Find the difference of

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

- ADD the additive inverse of each term in the second polynomial:

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

$+8 \quad -6x \quad -x^2$

$$-x^2 - 6x + 8$$

MINI QUIZ

$$(3 - 6n^5 - 8n^4) - (-6n^4 - 3n - 8n^5)$$