



Objective: Adding and Subtracting Polynomials

Homework ES-2 – NYA p.497 #1, 5, 11, 13, 22, 24, 25, 28, 31, 35, 36

Do Now: 1. $6t + 13t$ 2. $2b - 6 + 9b$ 3. $4n^2 - 7n^2$

Exam Prep: Which of the following does not belong?

- A) 4 B) $2n + 1$ C) $6x^4yz^7$ D) x^2



Polynomial Vocabulary

Monomial – expression that is a number, variable, or product of a number and variables. Ex: 12, y , $-5x^2y$, $\frac{c}{3}$

Degree of Monomial – sum of exponents of variables. A non-zero constant has a degree of 0, and the number zero has NO DEGREE.

a. $\frac{2}{3}x$	b. $7x^2y^3$	c. -4	d. 0	e. $8y^6$
Deg: 1st	Deg: 5th	Deg: 0	Deg: None	Deg: 6th

Polynomial – monomial or the sum/difference of two or more monomials, the monomials within a polynomial become its terms.

The degree of a polynomial is determined only by the monomial term with the largest degree, not the sum of the exponents of variables from all terms.

Example: $3x^4 + 5x^2 - 7x + 1$

Degree → 4 2 1 0

Standard Form would be degree of monomial terms listed greatest to least.

To the left, a 4th degree poly in standard form.

Also, a binomial is a 2-term polynomial and a trinomial is a 3-term polynomial.

Practice: Name the degree and put in standard form

1. $5x^4$	2. 3	3. $2mn^3$
4. 0	5. a^7bc^9	6. $4 - 3x^3 + x$
7. $-5x - 7x^5 + 2x^2 - 10$	8. $2x - 3x^2 + 5x$	9. $3x + 8x(2 + 3x)$

Practice: Find the degree of the following multi-variable polynomials

1. $2xy^3z^2 + 7x^2z^2 - 3xyz$	2. $15r^2s^{11}t^7 - 3r^{19}st^4$	3. $-4ab^2 + a^2 + b^3$
4. $7 + 20z^{14} - 9wxy^5z^5$	5. $2x^{101} - 47$	6. $a^3b^3c^3 + 16a^2b^4c^2 - 4c^5$

Practice: Adding and Subtracting (horizontal)

1. $(2x + 1) + (3x^2 + -7)$	2. $(-3x^2 - x + 2) + (3x^4 + 2x^2 - 6x + 11)$
3. $(-4x^3 + x - 1) + (2x^2 - 5x^3)$	4. $(9 - 5x) - (5x + 9)$
5. $(2x^4) - (3x^4 + 2x) + (5x^3 + x + 1)$	6. $(2x) - (-4x + 3)$

Practice: Adding and Subtracting (vertical)

1. $\begin{array}{r} 14c + 10 \\ + 3c + 6 \\ \hline \end{array}$	2. $\begin{array}{r} -3x + 10 \\ + 8x - 2 \\ \hline \end{array}$	3. $\begin{array}{r} 14y^2 - 9y + 2 \\ - \quad \quad 2y + 1 \\ \hline \end{array}$	4. $\begin{array}{r} 12x + 6 \\ - -4x + 25 \\ \hline \end{array}$
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