

10.1 Addition and Subtraction of Polynomials

Name _____

Polynomial in a single variable $f(x) = a_n x^n + a_{n-1} x^{n-1} + a_{n-2} x^{n-2} + \dots + a_2 x^2 + a_1 x + a_0$, where all the a 's are real numbers and all the x 's are raised to positive integers.

Monomial

Binomial

Trinomial

Degree of a term

	x	3	$6x$	$7y^5$	$10x^2y^9$	$9x^{12}y^5z$
Degree:						

Descending order $-6x^{14} - 7x^3 + 5x^{18} + 9 - 2x$, degree of polynomial

Ascending order $3x^4 - 7x^2 + 5x^8 - 3 + x$, degree of polynomial

Degree of a polynomial with multiple variables

$$6x - 7y^5 + 10x^2y^9 - 9x^{12}y^5z - 12$$

Combining polynomials

$$2(-6x^4 - 7x^3 + 5x^8 + 9 - 2x) + 4(3x^4 - 7x^2 + 5x^8 - 3 + x)$$

$$3(-6x^4 - 7x^3 + 5x^8 + 9 - 2x) - (3x^4 - 7x^2 + 5x^8 - 3 + x)$$

$$(6x - 7y^2 + 10x^2y - 9xy^2 + 12) - 2(-5x^2 + 2x^2y + 3xy^2 + 6x - 1) - (x^2y - 7xy^2 + 1)$$