



Degrees of Polynomials and Standard Form (Descending Order)

Video Notes

[Video Link](#)

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Polynomial:
many algebraic terms

Definitions:

Monomial	Binomial	Trinomial
one algebraic term Ex: $5x, -2x^3y^2z^2, 8$	two algebraic terms Ex: $4x^2 - 8x, 7x^2y + 12$	three algebraic terms Ex: $5x^2 + 2x - 1$

What separates terms? Terms are separated by plus
and minus signs

Degree of a Term (monomial)	Degree of a Polynomial
Number of variables multiplied together in a term Ex: $x^3 \rightarrow x \cdot x \cdot x \rightarrow 3^{\text{rd}}$ degree $x^3y^2 \rightarrow x \cdot x \cdot x \cdot y \cdot y \rightarrow 5^{\text{th}}$ degree	The highest degree monomial of a polynomial expression Ex: $7x^2y^4 - 9xy^2 + 8$ polynomial: 6^{th} degree

Standard Form/Descending Order

When the polynomial's terms are written from highest degree to lowest degree (exponent)

Put each polynomial expression in standard form/descending order and determine the degree of the expression.

$$5x^2 + 4x^9 + 3x + 2 + x^5$$

Standard Form/Descending Order	Degree
$4x^9 + x^5 + 5x^2 + 3x + 2$	9 th degree

$$3y^2 - 15y^4 + 20 - 8y^5 + 11y$$

Standard Form/Descending Order	Degree
$-8y^5 - 15y^4 + 3y^2 + 11y + 20$	5 th degree

$$12ab - 9a^2b - 5 + 8a$$

Standard Form/Descending Order	Degree
$-9a^2b + 12ab + 8a - 5$	3 rd degree