Polynomial Review

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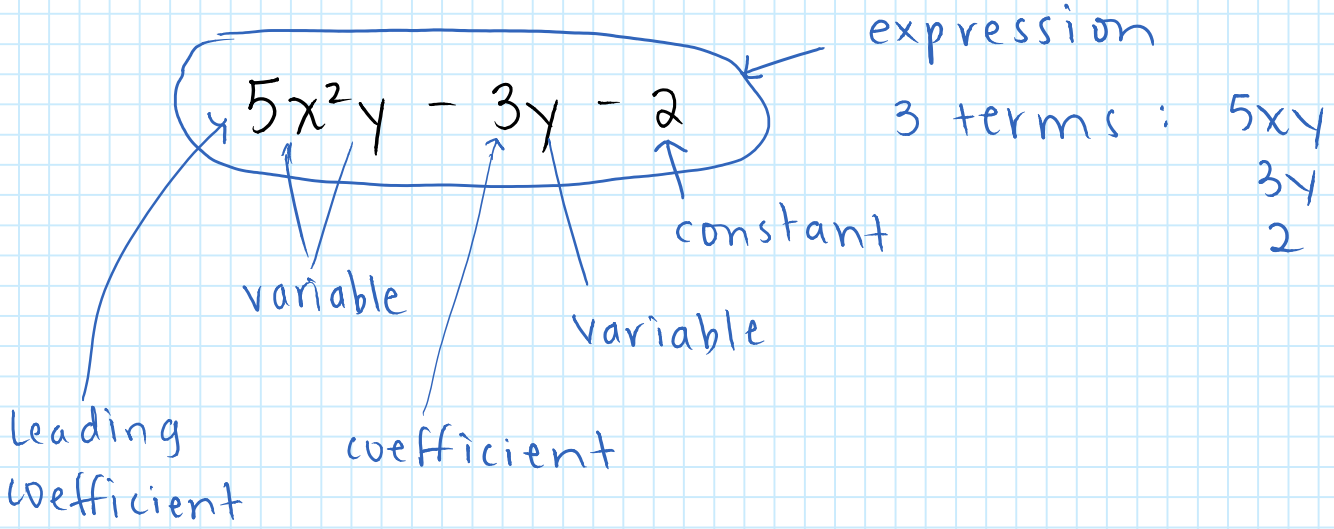

Polynomials consist of one or more terms, added or subtracted.

↳ exponents must be positive whole numbers.

Ex. $5x^2y$ $10x-3$ x^2+5x+6

- monomial : 1 term ex. x^2, $-3y$, 5
- binomial : 2 terms ex. y^2-6y, $5m+6$
- trinomial : 3 terms ex. $a^2-2ab+b^2$

* Degree *

- degree of a variable : d = exponent
- degree of a term : d = sum of exponents
- degree of a polynomial :
  - find degree of each term
  - → d = highest degree (do NOT add again)

Ex. Find the degree:

a) $4x^5$ → $d = 5$

b) $4x^5y^4z^1$ → $d = 5+4+1$, $d = 10$

c) $4x^3y^2 - 7x^1y^3$ → $d = 5$; $d = 4$

Combining Like Terms

↳ The variable (and exponents) must be identical

1. Identify
2. Group
3. Combine

* The sign in front of a term belongs to that term!

Ex ① $2x^2 + 3x - 7x^2 - 5x$

$2x^2 - 7x^2 + 3x - 5x$

$-5x^2 - 2x$ ← order matters! Highest degree 1ST

② $3ef^2 - 1e^2 - 5f^2e - 4e^2$

$5ef^2$

$-2ef^2 - 5e^2$

* Adding polynomials → SAME as like terms (ignore brackets)

* Subtracting polynomials → Add the opposite! (Rewrite)

(rewrite)

Ex. $(-7x^2 + 9xy - 5y) - (2xy + 5x^2 - 3y)$

same — Add — opposite

$-7x^2 + 9xy - 5y + -2xy - 5x^2 + 3y$

$-12x^2 + 7xy - 2y$