Addition and Subtraction of Polynomials

ADDITION of POLYNOMIALS

Simplifying expressions is **combining like** terms.

Note: x is the same as $1x$ and $-x$ is the same as $-1x$

The process of addition or subtraction is **performed only with the numerical coefficients** of like terms (same variable and power). The variable factors remain unchanged.

$$5y^2 - 12y + 6y^5 - 4y^2 + y = 6y^5 + y^2 - 11y$$

TRY:

$6a^2b - 2ab^2 + 3a^2b - 4ab^2$ $\qquad$ $2y^2 - 3y - 8 + y + 4y - 1$

SUBTRACTION of POLYNOMIALS

To subtract polynomials use the Distributive Property to remove grouping symbols.
Be careful to distribute the "-" to each term [that is multiply each term in the group by a "-1"].

$$(5ab^2 - 2a^2b^2) - (4a^2b^2 + 3ab^2) = 5ab^2 - 2a^2b^2 - 4a^2b^2 - 3ab^2 = -6a^2b^2 + 2ab^2$$

TRY:

$5x - (-3x + 4)$ $\qquad$ $3a - (12a + 4b)$

$(a - 3a) - (1 - a - 2a^2)$ $\qquad$ $(2x - 5) - (x^2 - 3x + 2)$