

Polynomial

Example of a Polynomial: $3x^2 + x - 2$

A polynomial can have **constants**, **variables** and the **exponents 0,1,2,3,...**

And they can be combined using addition, subtraction and multiplication, ... **but not division!**

exponents: 0,1,2,...

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

terms

A Polynomial

$$3xy^{-2}$$

$$\frac{2}{x+2}$$

Not Polynomials

Monomial, Binomial, Trinomial

There are special names for polynomials with 1, 2 or 3 terms:

$3xy^2$
Monomial (1 term)

$5x - 1$
Binomial (2 terms)

$3x + 5y^2 - 3$
Trinomial (3 terms)

Like Terms

Like Terms are **terms** whose variables (and their exponents such as the 2 in x^2) are the same.

In other words, terms that are "like" each other. (Note: the **coefficients** can be different)

Example:

$$(1/3)xy^2$$

$$-2xy^2$$

$$6xy^2$$

Are all **like terms** because the variables are all xy^2

Adding and Subtracting Polynomials

Adding horizontally:

- **Label similar terms** (Colored Pencils)
- **Answer in standard form**

$$\text{Ex: } (x^3 + 3x^2 - 11) + (2x^3 - 9x + 4)$$

Subtracting horizontally:

When subtracting polynomials we ALWAYS CHANGE the signs of the second polynomial.

Then.....**SAME STEPS AS ABOVE**

$$\text{Ex: } (x^4 + 6x^2 - 7x + 10) - (x^4 - 5x^2 + 2x - 11)$$