Monomials, Binomials, Trinomials

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What is a polynomial?

To answer this question we need to first understand what a "term" is. A **term** is something that looks like,

$$4x^2, 3x, 5, -x^4 \ \ etc.$$

There are two components to a **term**, the **coefficient** and the **variable**. The coefficient in the term $4x^2$ is 4 and the variable part is x^2. A **polynomial** is at least one term or the sum of any number of terms. Some examples of polynomials are,

$$3x^2 + 4x + 3$$
$$-5x + 3$$
$$6 + x^2$$

Monomials, binomials, trinomials, oh my!

A **monomial** is a polynomial with one term. For example,

$$3x^2, -4x, -7x^3$$

are some examples.
A **binomial** is a polynomial with two terms. For example,

$$4x + 2, x^2 - 6, x + 3x^2$$

are example of bionomials.
A **trinomial** is a polynomial with three terms. For example,

$$-2x^2 + 3x + 4$$
$$6x - 3 + 2x^2$$

are all trinomials.
We can add, subtact, multiply, divide and take powers of polynomials just as we can with numbers.

Exercises

Label each polynomial as a monomial, binomial, trinomial or polynomial for greater than trinomial.

(a) $a^{13} + a^{133} + a^{1333}$

(b) y^{1000}

(c) $z^2 + 2$

(d) $3 - 4y$

(e) x^{100001}

(f) $y^5 + x^6 + z^6 + w^6 + a^6$

(g) $x^2 - x$

(h) x

(i) $y^{10} - 4 + 3y^2 - 3$

(j) 4

