

Naming a Polynomial

There are two ways to name a Polynomial,
Think of this as the Polynomials first and last name:

1. By the degree of the polynomial.
(This is the polynomials first name)
2. By the number of terms that the polynomial contains.
(This is the polynomials last name)

Naming a Polynomial by its DEGREE

What is a degree?

The degree of a polynomial is the highest exponent on the variables.

Examples:

What is the degree of the function?

1. $7x^2 + 5x - 3$

2. $-5x^5 - 3x^4 + 2x^3 - 7x^2 + x - 1$

Naming a Polynomial by its DEGREE

Names of the polynomials when their degree is:

Zero (0) - Constant

One (1) - Linear

Two (2) - Quadratic

Three (3) - Cubic

Four (4) - Quartic

Five (5) - Quintic

Six (6) - Sextic

Seven (7) - Septic

Examples:

1. $-5x^3 + 2$

2. $x^7 + 2x^5 - 6x^3 + 2x - 5$

3. x^6

4. $8x + 9$

5. $-8x^5 + 2x^4 - 6x^2 + 2x - 3$

6. $3x^2 + 2x - 1$

Naming a Polynomial by its NUMBER OF TERMS

What is a Term?

A term is a group of multiplied or divided items that are separated by an addition (+) or subtraction (-) sign.

Examples:

Identify how many terms there are in each of the following.

1. $-5x^3 + 2$

2. $x^7 - 6x^3 + 2x - 5$

3. x^6

4. $-8x^5 + 2x^4 - 6x^2 + 2x - 3$

5. $3x^2 + 2x - 1$

Naming a Polynomial by its NUMBER OF TERMS

Names of Polynomials when they contain _____ Terms:

One (1) Term = Monomial

Two (2) Terms = Binomial

Three (3) Terms = Trinomial

Four (4) or more terms = Polynomial of _____ Terms

Note: At times, depending on the instructor/test, you will just need to put Polynomial for 4+ terms

Examples:

1. $8x^2 + 5x - 3$

2. $9x^5 + 7$

3. $-7x$

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

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

Naming a Polynomial

Examples:

Name each of the following polynomials by degree and number of terms:

1. $9x^2 + 1$

2. $7x^3 - 5x^2 + 4x - 9$

3. $-8x^6$

4. $x^4 - 3x^3 - 7$

5. 9