

The degree of a term is the sum of the exponents of the **variables** in a single term. For example, the degree of  $4x^2y$  is 3.

The term with the greatest exponent determines the **DEGREE** of the polynomial.

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

The term  $-2x$  has a degree of 1

The term 5 is **constant term**. Its value does not change when the value of  $x$  changes. **A constant term has a degree of 0.**

What is the degree of the polynomial?

Polynomial	highest exponent on variable Degree	# Terms
a) $-3x^4$	4	1
b) $-2x^2 + 3x - 4$	2	3
c) $2x^4 + 4x^6 - 6$	6	3
d) $-3x^2 + 4x^3 - 2x^1 + 4$	3	4
e) 4	0	1

# What is not a polynomial?

If an expression has a square root of a variable  $\sqrt{x}$ , or has a variable in the denominator  $(\frac{1}{x}, \frac{2}{x^2})$  it IS **NOT A**

**POLYNOMIAL!**

Complete the Chart below:

<b>Polynomial</b>	<b>#terms</b>	<b>[commas] list terms</b>	<b>highest exponent on the variable degree</b>	<b>just a number constant</b>
a. $3x^1 + 4y^2$	2	$3x, 4y^2$	2	—
b. $3x^1$	1	$3x$	1	—
c. $-3$	1	$-3$	0	$-3$
d. $3x - 4x^3 - 4$	3	$3x, -4x^3, -4$	3	$-4$

## Classifying polynomials [look at the number of terms]...

Polynomials with 1, 2, or 3 terms have special names.

A **monomial** has 1 term, for example:  $4a$ ,  $6$ ,  $-2p^2$

A **binomial** has 2 terms, for example:  $2c - 5$ ,  $2m^2 + 3m$

A **trinomial** has 3 terms, for example:  $2h^2 - 6h + 4$

## Coefficient- the numerical value of a term [found in front of a variable]



Term	# in front of variable Coefficient [s]	highest exponent degree	letter variable[s]	just a # constant
a. $2x + 4y^2$	2, 4	2	x, y	—
b. $-3a^2$	-3	2	a	—
c. $-2xy + 4a^3 + 2$	-2, 4	3	x, y, a	2
d. $6$	—	0	—	6

Polynomial	Classify/type	# in front of variable	highest exponent	just a #
	Monomial, Binomial or Trinomial?	Coefficient[s]	Degree	Constant
A. $-3x^3$	Monomial	-3	3	—
B. $9r^1 - 7$	Binomial	9	1	-7
C. $-3y^2 - 4y + 6$	Trinomial	-3, -4	2	6

**\* The sign in front of the term goes with the coefficient or constant \***

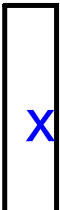
Polynomial	# of Terms	Classify Type	Constant	Degree	Coefficient
A. $-4$	1	Monomial	-4	0	—
B. $-2x+3$	2	Binomial	3	1	-2
C. $2x-3+4x^2$	3	Trinomial	-3	2	2, 4
D. $-6x$	1	Monomial	-	1	-6

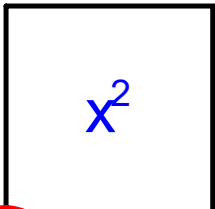
# Algebra Tiles Legend

Textbook  
yellow → positive  
red → negative

## Unshaded Positive


 constant

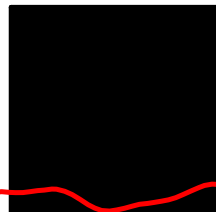
  $x$  degree 1

  $x^2$  degree of 2

## Shaded negative

  $-1$

  $-x$

  $-x^2$