Polynomials

Wednesday, October 9, 2019 12:10 PM

A polynomial is the sum or difference of one or more algebraic terms.

A term is a number a variable or the product of both.

eg $5, -3, x, y, 2x, -4y, 6xy$

$6x^2y^3$ ...

Examples of Polynomials.

$3x$ — Monomial (1 term)

$-2x + 5$ — Binomial (2 terms)

$6x^2 + 2x - 7$

$4x^2 + 7xy - 12y^2$ } Trinomial (3 terms)

$2x^2 - 7x + 5$

coefficient

constant

variable

Degree of a term is the exponent of the variable (or the sum of the exponents if the term has more than 1 variable)

eg

Term	Degree
$6x^2$	2
$-3xy$	2
$4y$	1
$\frac{1}{2}x^3$	3

$-2xy$	2
$4y$	1
$7x^2y^3$	5
8	0

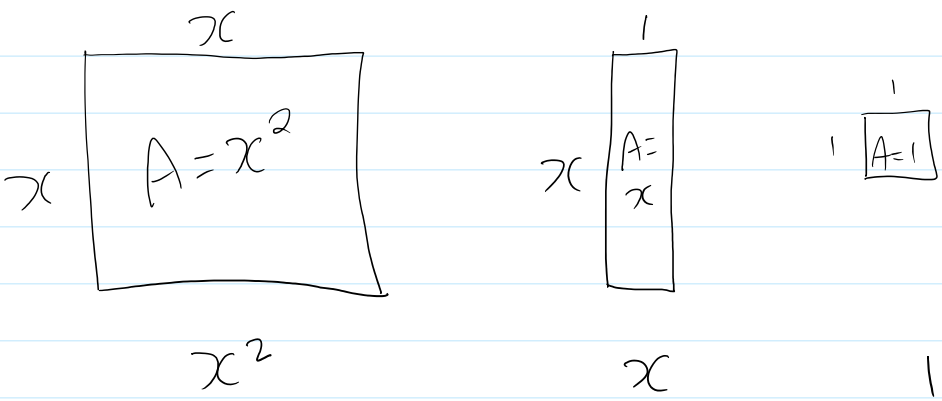
Degree of a polynomial is the largest degree of all the terms

eg $x^2 - 7x - 5$ degree of polynomial is 2

degree (2) 1 0

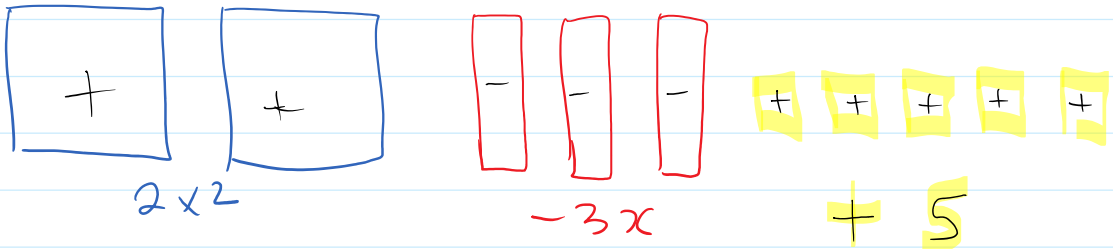
$x^3 - 4x^2y^2$ degree of poly. is 4

degree 3 4



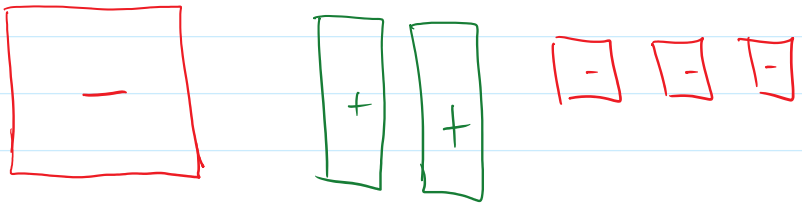
The red side is for negative values

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



Build

$-x^2 + 2x - 3$



$-x^2 \quad +2x \quad -3$

Evaluate: $3x-7$ for $x=-2$

$3(-2)-7$

$-6-7 = -13.$

Evaluate $2x^2+2x-5$ for $x=-3$

$2(-3)^2+2(-3)-5$

$2(9)+2(-3)-5$

$18+-6,-5$

$12-5$

$=7$