October 23, 2017

* Complete 5.1 – Functions 1-45 m3
* Currently 5.2 – Polynomials
  - Defined Polynomial 1-60 m3
  - $4x^2y$ • single terms (monomial)
  - $4x^2y+2x-5$ • terms connected by addition

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Degree of terms and Polynomials

① Terms: the degree of a term is the sum of the exponents of all variables

① $5x^4y^3t^2$

Degree: $4+3+2=9$

② $-x^2y^1$

Degree: $2+1=3$

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② Degree of Polynomials: the degree of the term with the highest degree.

① $3x^4 - 2x^3 - x^2 + 5$

D: 4 D: 3 D: 2 D: 0

↓ Degree of Polynomial: 4

② $-x - 5x^3 + 2x^5 + 2$

D: 1 D: 3 D: 5 D: 0

Degree: 5

S/B: $2x^5 - 5x^3 - x + 2$

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Descending order of Powers

General Form of a Polynomial

$$a_n x^n + a_{n-1} x^{n-1} + a_{n-2} x^{n-2} + \cdots a_1 x + a_0$$

if $n=5$

$2x^3 + 4x^3 - 5x^1 + 10x^0$

Degree: 3

* $x^0 = 1$

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x^1 line or linear

x^2 (even) Parabola (curve)

x^3 (odd) Quadratic Polynomial curve (cubic Polynomial)

x^4 Parabolic shape

x^5 cubic like

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x^0

x^1

x^2 flat 2D

x^3 3D

x^4 4th D

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$2x^{4} - 3x^{3} + x - 1$ (4 ← even)

Degree: 4 Polynomial

* The degree also tells us the number of solutions the polynomial has.

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