

March 22, 2016

5.2 Polynomials

- ① monomial 1 term  
↳ Degree: sum of exponents
- ② Binomial 2 terms connected by + or -
- ③ Trinomial 3 terms "
- ④ Polynomial many terms "  
"many"

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Degree of a Polynomial

Is determined by the largest degree of all the terms in the polynomial.

$$4x^3y^4z - 5x^6y^2 + 10x^8y^2z^3 + x^{11}$$

↑ d: 8
↑ d: 8
↑ d: 12
↑ d: 11

Degree 12 polynomial

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$$\boxed{3x^5} - \boxed{2x^4} + \boxed{3y^3} - \boxed{12x^2} + \boxed{x} + \boxed{10}$$

Highest → Lowest

$x^1 \rightarrow$  line  
 $x^2 \rightarrow$  curve  
 $x^3 \rightarrow$  curve  
 $x^4 \rightarrow$  "  
 $x^5 \rightarrow$  "

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Do 5.2 #1 - #6 m3

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5.4 Addition / Subtraction of Polynomials

What are "Like" Terms?

- ① Must have same variable
- ② Must have same exponent

$5x^2y^0 - 7x^2y^0$  like  
 $5x^2y^0 - 7x^0y^2$  not like

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Addition means Combining Like terms!

$$5x^2y - 7x^2y = -2x^2y$$

$x^2y (5-7)$   
 $x^2y \cdot (-2)$

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$$\begin{aligned}
 & ① \cdot (-8x^3y^2z + 2x^2y - 4) + (6x^3y^2z + 8) \\
 & - 8x^3y^2z + 2x^2y(-4) + 6x^3y^2z + 8 \\
 & - 8x^3y^2z + 6x^3y^2z + 2x^2y(-4 + 8) \\
 & - 2x^3y^2z + 2x^2y + 4
 \end{aligned}$$

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