

6.1 Review ... Then Notes on 6.2

Vocab 6.1 Review.

monomial } $2x^5, -5, 4x$
 polynomial } $2x^5, 2x^5 - 3x^4, x^3 + 2x - 5$

degree of a monomial }
 degree of a polynomial }

leading coefficient $5x + \underline{3}x^2 - 2x$

binomial }
 trinomial } ex:

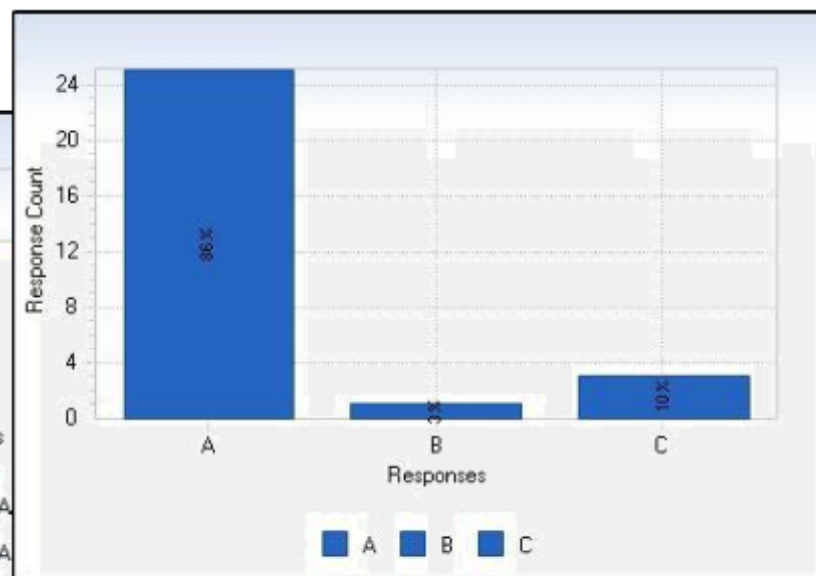
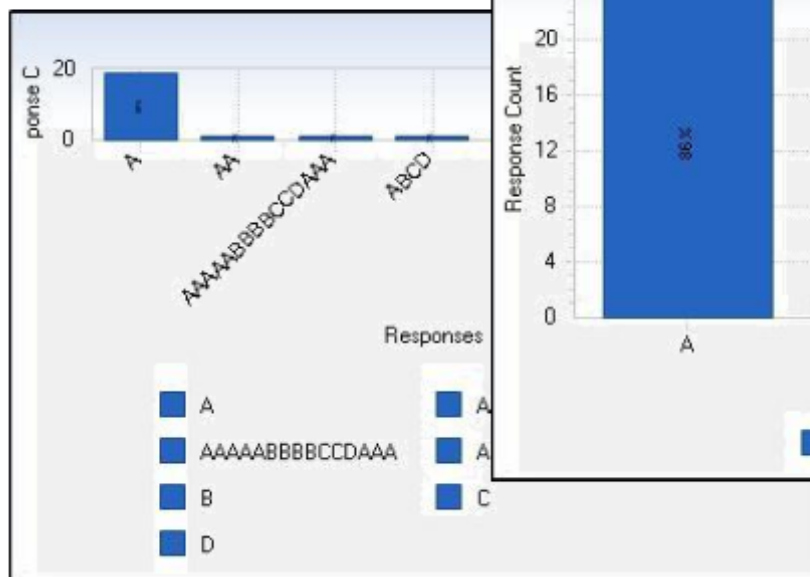
Polynomial function. $y = 5x + 3x^2 - 2x$



54.

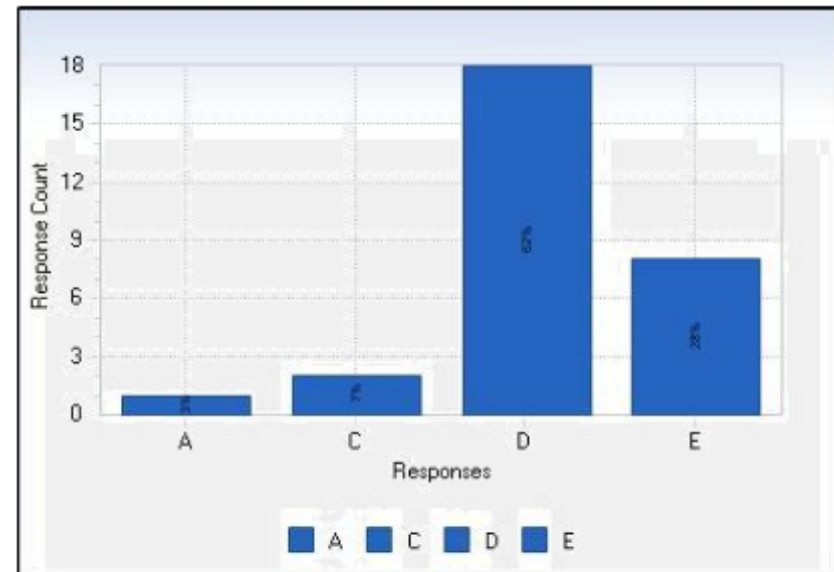
Sx¹y⁴z¹

Deg = 6



55. $(2x^2 + 4x - 6) + (2x^2 + 2x + 8)$

$2x - 14$

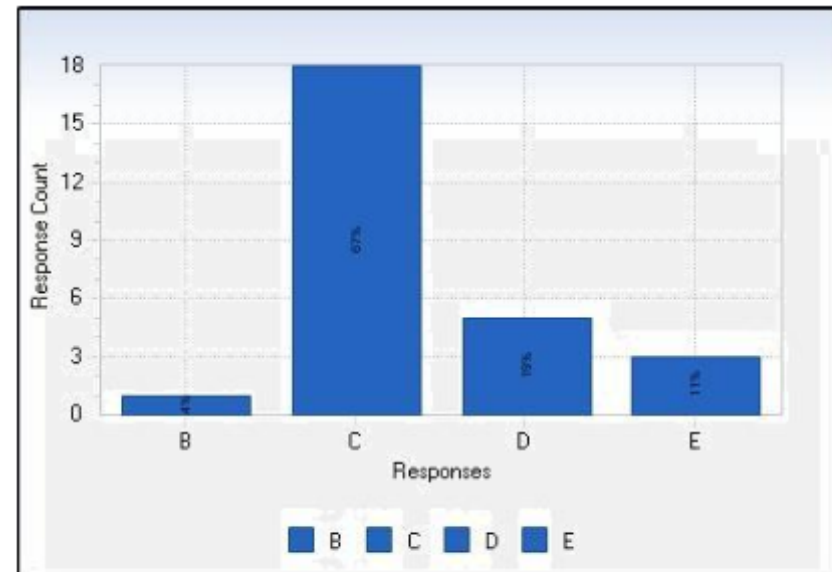


$$Sp. (A) -x^6 + 2x^4 + 7$$

$$(B) -x^5 + 3x^3$$

$$(C) x^4$$

$$(d) x^2 - 2x + 3$$



(57) $h(x) = 7x^3 - x^6 + x$

$5x^2 + y^3 + z^4$ Deg = 9

$5x^5 + 2x^3$ Deg = 5



6.2 Multiplying Polynomials

CA # 3.0

Objective:

- ① Multiplying Polynomials
- ② Use binomial expansion

Ex. 1 A $3x^2(x^3+4)$

$$3x^5 + 12x^2$$

B $a^4b(a^3 + 3ab^2 - b^3)$

$$a^4b + 3a^2b^3 - ab^4$$

√ 1a $3cd^2(4c^2d - bcd + 14cd^2)$
 √ 1b.

$$B \cdot (x^2 + 3x - 5)(x^2 - x + 1)$$

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

	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9

$$x^4 + 2x^3 - 7x^2 + 8x - 5$$

Ex.2 $(\cancel{x}-2)(1+3x-x^2)$

Horizontal Method

$$\underline{\underline{x}} + \underline{\underline{3x^2}} - \underline{\underline{x^3}} - 2 - \underline{\underline{6x}} + \underline{\underline{2x^2}}$$

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

Vertical Method

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

$$\underline{\underline{x}} \quad \underline{\underline{-2}}$$

$$+ \quad 2x^2 - 6x - 2$$

$$-x^3 + 3x^2 + x \quad 0$$

Ex. 2B $(x^2 + 3x - 5)(x^2 - x + 1)$

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

$$x^4 + 2x^3 - 7x^2 + 8x - 5$$

Ex. 4

							1	Row 0							
							1	1	Row 1						
							1	2	1	Row 2					
							1	3	3	1	Row 3				
							1	4	6	4	1	Row 4			
							1	5	10	10	5	1	Row 5		
							1	6	15	20	15	6	1	Row 6	
							1	7	21	35	35	21	7	1	Row 7

$$(x+2)^6$$

Pascal's #	1	6	15	20	15	6	1
1st Term	x^6	x^5	x^4	x^3	x^2	x^1	$1(x^0)$
2nd Term	$1(2^0)$	2^1	2^2	2^3	2^4	2^5	2^6

$$\frac{16}{15}$$

$$x^6 + 12x^5 + 60x^4 + 160x^3 + 240x^2$$