

2.4 Polynomial Operations

-B- Product of Polynomials

Case 1- Monomial times a Polynomial:

Examples: $3(2x + 4) =$

Distributive Property

Page 59 # 6 (a) $3x(5x - 2) =$

(b) $-2x^2(3x + 5) =$

(f) $\frac{2}{3}x^2(6x^2 - 9x + 3) =$

1

Ex 1: Multiplying Polynomials

$3x(5x^2 + 2x) =$ _____

$-5(2x + 1) =$ _____

$-2x^2(3x - 3) =$ _____

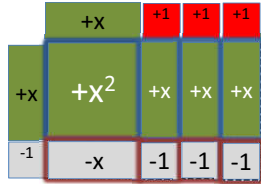
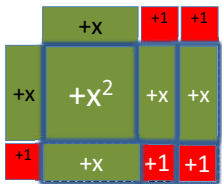
$\frac{3}{2}x^2(6x^3 - 8x + 4) =$ _____

2

Case 2- Binomial times a Binomial:

a) $(x + 1)(x + 2)$

b) $(x - 1)(x + 3)$



=

3

Case 2- Binomial times a Binomial:

$(2x + 2)(x + 4)$

Option 1: Use Distributive Property:

$2x(x + 4) + 2(x + 4)$

$= 2x^2 + 8x + 2x + 8$

$= 2x^2 + 10x + 8$

4

Option 2: Expand and simplify (FOIL)

$(2x + 2)(x + 4)$

F - First
O - Outside
I - Inside
L - Last

$= (2x)(x) + (2x)(4) + (2)(x) + (2)(4)$

$= 2x^2 + 8x + 2x + 8$

$= 2x^2 + 10x + 8$

5

Ex 2: Expand and simplify (FOIL)

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

6

Ex 3: Foil practice

$$(x + 2)(x + 2) = \underline{\hspace{2cm}}$$

$$(x - 3)^2 = \underline{\hspace{2cm}}$$

$$(4x - 3)(2x + 1) = \underline{\hspace{2cm}}$$

7

Practice:
Page 59 # (6, 7, 8, 9 aceg of each)
page 60 # 11, 12



8

Ex 4: (page 59 # 8 (d))

$$(3x + 2)(2x - 3) - (x - 1)(2x + 1)$$

Ex 5: Find the missing factor

$$(\underline{\hspace{1cm}})(2x - 5) = 8x^2 - 20x$$

9

Practice:
Page 60 # 13--22



10