

Section  
6.2B

When adding or subtracting polynomials, it is important to combine like terms.

$4x$ and $3$	NOT like terms	The second term has no variable
$4x$ and $3y$	NOT like terms	The second term now has a variable, but it doesn't match the variable of the first term
$4x$ and $3x^2$	NOT like terms	The second term now has the same variable, but the degree is different
$4x$ and $3x$	LIKE TERMS	Now the variables match and the degrees match

Like terms have exactly the same variables to exactly the same degree. (exp. value)

This is not the first time you have added and subtracted polynomials. Don't forget that when subtracting, each term in the second polynomial changes to the opposite; then you can add.

**Example 1:**  $(2x+5)+(3x-7) = 2x+5+3x-7 = (2x+3x)+(5-7) = 5x-2$

**Example 2:**  $(-3x+6)-(7x-5) = -3x+6-7x+5 = (-3x-7x)+(6+5) = -10x+11$

#1 – 2: Add or subtract these polynomials. Remember to only combine like terms. Show your work!

1)  $(2x^2 - 3x + 8) + (4x^2 + 5x - 2)$   
 $6x^2 + 2x + 6$

2)  $(4x^5 + 3x^3 + x - 5) - (-2x^5 + x^4 - 4x^3 + x^2 - 3x - 2)$   
 $4x^5 + 0x^4 + 3x^3 + 0x^2 + 1x - 5$   
 $+ 2x^5 - 1x^4 + 4x^3 - 1x^2 + 3x + 2$   
 $6x^5 - 1x^4 + 7x^3 - 1x^2 + 4x - 3$

On back of Yellow "Exit Ticket"

Add the polynomial. Combine like terms.

$$\begin{array}{r}
 (4ab^2 + 3a^2b + 1ab - 2a^2b^2 + 3) + (5a^2b - 3ab^2 + 2ab - 3a^2b^2 - 8) \\
 + \text{red } -3ab^2 + \text{blue } 5a^2b + \text{purple } 2ab - 3a^2b^2 - 8 \\
 \hline
 1ab^2 + 8a^2b + 3ab - 5a^2b^2 - 5
 \end{array}$$

6.2C #1 on *Page 107*

Multiply the following polynomials:

$(3x^2 \cdot 2x^2)^2 \quad 2x^2(3x^2 - 4x + 3)$

Vertical

$$\begin{array}{r}
 3x^2 - 4x + 3 \\
 \times \quad 2x^2 \\
 \hline
 6x^4 - 8x^3 + 6x^2
 \end{array}$$

Horizontal

$$\begin{array}{l}
 2x^2 (3x^2 - 4x + 3) \\
 \quad \quad \quad \nearrow \quad \nearrow \quad \nearrow \\
 6x^4 - 8x^3 + 6x^2
 \end{array}$$

Box

$3x^2$	$-4x$	$+3$
$2x^2$	$6x^4$	$-8x^3$
	$6x^2$	

$$6x^4 - 8x^3 + 6x^2$$

#1 – 12: Multiply the following examples and compare your answers with your team mates.

4)  $(-3v+5)(4v-1)$

5)  $(7g-4)(6g-11)$

6)  $(4h-3)(4h+3)$

$$42g^2 - 77g - 24g + 44$$

$$42g^2 - 101g + 44$$

#1 – 12: Multiply the following examples and compare your answers with your team mates.

7)  $(2k+7)(2k+7)$

8)  $(5m+3)^3$

9)  $(4x^3+7x)(3x^2-2)$

$$(5m+3)(5m+3)(5m+3)$$

$$(25m^2+30m+9)(5m+3)$$

$$\begin{array}{r}
 125m^3 + 150m^2 + 45m \\
 + \quad 75m^2 + 90m + 27 \\
 \hline
 125m^3 + 225m^2 + 135m + 27
 \end{array}$$

**UNIT 6: Intermediate Algebra B**

Name: \_\_\_\_\_ Period: \_\_\_\_\_

<http://www.anoka.k12.mn.us/Page/15931>

Use this guide to help you evaluate where you are at in this chapter, and identify areas that you need extra help in.

☺=Proficient (you are awesome at this) ☹=Middle (you need some improvement) ☹=Not Proficient (HELP!)

Intermediate Algebra Unit 6 : Solving Polynomial functions					
Date Covered	LT Letter	Learning Target (LT) (What you should know)	Practice Problems	Number of Test Questions/Points	Self-Evaluation (Do you know it?)
	6.1 A & 6.1 B	I graph polynomial functions and identify the significant features of the graph.	6.1 A #1, 4-6 (P-77)  6.1 B #1-13 (P-83)		☹      ☹      ☹
	6.2 A	I can demonstrate understanding of operations with polynomials.	6.2 A #1-15 (P-93) <i>Exponent w.s. (green)</i>		☹      ☹      ☹
5/6	6.2 B & 6.2C		6.2 B #3-15(odds), 21, 22 (P-95)  6.2 C #2-22(evens) <i>(P-99)</i>		☹      ☹      ☹