Algebra 1 | Unit 7: Quadratic Expressions | Practice

Day 2 – Adding & Subtracting Polynomials | **Name:** Key

Practice Assignment | **Date:** _____ **Block:** _____

1. *Add the following polynomials. Make sure your final answer is in standard form.*

a. $(5x^2 - 4x + 7) + (8x^2 - 3x - 9)$

$$\begin{array}{r} 5x^2 - 4x + 7 \\ +\ 8x^2 - 3x - 9 \\ \hline 13x^2 - 7x - 2 \end{array}$$

b. $(4x + 5x^2 + 8) + (-2x^2 + 8)$

$$\begin{array}{r} 5x^2 + 4x + 8 \\ +\ -2x^2 \quad\quad +8 \\ \hline 3x^2 + 4x + 16 \end{array}$$

c. $(7y^2 + 2y - 3) + (2 - 4y + 5y^2)$

$$\begin{array}{r} 7y^2 + 2y - 3 \\ +\ 5y^2 - 4y + 2 \\ \hline 12y^2 - 2y - 1 \end{array}$$

d. $(3x^2 - 4x + 8) + (2x - 7x^2 - 5)$

$$\begin{array}{r} 3x^2 - 4x + 8 \\ +\ -7x^2 + 2x - 5 \\ \hline -4x^2 - 2x + 3 \end{array}$$

2. *Subtract the following polynomials. Make sure your final answer is in standard form.*

a. $(2x - 4) + (5x + 7)$

$$\begin{array}{r} 2x - 4 \\ +\ -5x - 7 \\ \hline -3x - 11 \end{array}$$

b. $(3x^2 - 3x - 5) + (2x^2 + x + 6)$

$$\begin{array}{r} 3x^2 - 3x - 5 \\ +\ -2x^2 - x + 6 \\ \hline x^2 - 4x + 1 \end{array}$$

c. $(4x^2 + 3x - 10) + (4x^2 + 2x + 8)$

$$\begin{array}{r} 4x^2 + 3x - 10 \\ +\ 4x^2 - 2x - 8 \\ \hline 8x^2 + x - 18 \end{array}$$

d. $(14x - 3x^2 + 2) + (3x + 4x^2 + 5)$

$$\begin{array}{r} -3x^2 + 14x + 2 \\ +\ -4x^2 - 3x + 5 \\ \hline -7x^2 + 11x + 7 \end{array}$$

e. $(x - 5 + 5x^2) + (5 + 8x^2 + x)$

$$\begin{array}{r} 5x^2 + x - 5 \\ +\ -8x^2 + x - 5 \\ \hline -3x^2 + 2x - 10 \end{array}$$

f. $(4x + 3x^3 - 7) + (2x + 1 + 5x^3)$

$$\begin{array}{r} 3x^3 + 4x - 7 \\ +\ 5x^3 + 2x - 1 \\ \hline 8x^3 + 6x - 8 \end{array}$$

g. $(2x^2 + 2x - 4) + (x^2 + 3x + 7)$

$$\begin{array}{r} 2x^2 + 2x - 4 \\ +\ -x^2 - 3x - 7 \\ \hline x^2 - x - 11 \end{array}$$

h. $(3n^2 + 13n^3 + 5n) + (7n + 4n^3)$

$$\begin{array}{r} 13n^3 + 3n^2 + 5n \\ +\ -4n^3 \qquad -7n \\ \hline 9n^3 + 3n^2 - 2n \end{array}$$

3. *Determine the missing values of m and n.*

a. $(4x^2 + 2x - 8) + (mx^2 - nx + 4) = 7x^2 - 5x - 4$

$4 + m = 7$

$\boxed{m = 3}$

$2 - n = -5$

$\boxed{n = 7}$

b. $(mx^2 - 8x + 3) - (6x^2 + nx - 4) = -2x^2 - 5x + 7$

$m - 6 = -2$

$\boxed{m = 4}$

$-8 - n = -5$

$\boxed{n = -3}$