

Name: Key
Date: _____ Block: _____

Practice Assignment

Review: Subtract the polynomials

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

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

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

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

Multiply the following polynomials.

1. $(x + 4)(x - 6)$

$$\begin{array}{r} x^2 - 6x + 4x - 24 \\ \hline x^2 - 2x - 24 \end{array}$$

2. $(x + 9)(x - 9)$

$$\begin{array}{r} x^2 - 9x + 9x - 81 \\ \hline x^2 - 81 \end{array}$$

3. $(x - 4)^2$

$$\begin{array}{r} (x - 4)(x - 4) \\ x^2 - 4x - 4x + 16 \\ \hline x^2 - 8x + 16 \end{array}$$

4. $(x + 6)(x - 7)$

$$\begin{array}{r} x^2 - 7x + 6x - 42 \\ \hline x^2 - x - 42 \end{array}$$

5. $(x + 9)^2$

$$\begin{array}{r} (x + 9)(x + 9) \\ x^2 + 9x + 9x + 81 \\ \hline x^2 + 18x + 81 \end{array}$$

6. $(x - 2)(x - 9)$

$$\begin{array}{r} x^2 - 9x - 2x + 18 \\ \hline x^2 - 11x + 18 \end{array}$$

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

$$\begin{array}{r} 4x^2 - 2x + 12x - 6 \\ \hline 4x^2 + 10x - 6 \end{array}$$

8. $(6x - 3)(4x - 1)$

$$\begin{array}{r} 24x^2 - 6x - 12x + 3 \\ \hline 24x^2 - 18x + 3 \end{array}$$

9. $(2x + 5)^2$

$$\begin{array}{r} (2x + 5)(2x + 5) \\ 4x^2 + 10x + 10x + 25 \\ \hline 4x^2 + 20x + 25 \end{array}$$

10. $(3x + 1)(2x - 5)$

$$\begin{array}{r} 6x^2 - 15x + 2x - 5 \\ \hline 6x^2 - 13x - 5 \end{array}$$

11. $(2x + 3)(x - 7)$

$$\begin{array}{r} 2x^2 - 14x + 3x - 21 \\ \hline 2x^2 - 11x - 21 \end{array}$$

12. $(4x - 1)^2$

$$\begin{array}{r} (4x - 1)(4x - 1) \\ 16x^2 - 4x - 4x + 1 \\ \hline 16x^2 - 8x + 1 \end{array}$$

13. $(x+1)(x^2+5x-2)$

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

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

14. $(2x-1)(x^2+6x+3)$

$$\underline{2x^3} + \underline{12x^2} + \underline{6x} - \underline{x^2} - \underline{6x} - \underline{3}$$

$$2x^3 + 11x^2 - 3$$

15. $(x+4)(x-3)(x+2)$

$$(x^2 - 3x + 4x - 12)(x+2)$$

$$(x^2 + x - 12)(x+2)$$

$$\underline{x^3} + \underline{2x^2} + \underline{x^2} + \underline{2x} - \underline{12x} - \underline{24}$$

$$x^3 + 3x^2 - 10x - 24$$

16. $(x+1)(x-5)(x-3)$

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

$$(x^2 - 4x - 5)(x-3)$$

$$\underline{x^3} - \underline{3x^2} - \underline{4x^2} + \underline{12x} - \underline{5x} + \underline{15}$$

$$x^3 - 7x^2 + 7x + 15$$