Unit 10 – Assignment #1: Polynomials (P. 427)

1) *Identify each expression as a monomial, binomial or trinomial.*

a) $ x^{4}+2x^{2}+1$ b) 23 c) $5n^{3}+nq^{2}$

2) *Create your own example of a:*

a) monomial: b) binomial: c) trinomial:

3) *Find the degree of each polynomial.*

a) $13-4ab+5a^{3}b$ b) $10+2d^{4}-6d^{2}g^{3}$ c) -4

Unit 10 – Assignment #2: Adding Polynomials (P. 436)

*Find the sum of each polynomial.*

1) (y + 5) + (2y + 4y2 – 2) 2) (m2 + m) + (m2 – 11)

3) (4a - 5b2 + 3) + (6 – 2a + 3b2) 4) (x2y – 3x2 + y) + (3y – 2x2y)

5) (4x2 + 2y – 6z) + (5y – 2z + 7x) + (-9z - 2x2 – 3y) + (8x + y)

Unit 10 – Assignment #1: Polynomials (P. 247)

*Write each polynomial in standard form and underline the leading coefficient*.

4) $5x^{2}-2+3x$ 5) $4-3c-5c^{2} $

6) $11m+2m^{2}-3+ m^{5}$ 7) $\frac{1}{2}x-3x^{4}+7$

*A firework shell is launched two feet from the ground at a speed of 150 feet per second. The height, H, of the firework shell is modeled by the equation H = -16t2 + 150t + 2, where t is time in seconds.*

8) How high will the firework be after 3 seconds? After 5 seconds? Show your work ☺

Unit 10 – Assignment #2: Adding Polynomials (P. 436)

6) Write a polynomial that represents the perimeter of the figure below.

 2x + 1

 3x - $\frac{1}{2}$ 2x - $\frac{1}{2}$

 5x - $\frac{1}{4}$

7) From 1997 through 2007, the number of dogs, *D*, and the number of cats, *C*, (in hundreds) adopted from animal shelters in the United States are modeled by the following equations, where *n* is the number of years since 1997.

 *D = 2n + 3* *C = n + 4*

Write an equation that models the total number, *T*, of dogs and cats adopted in hundreds for this time period.

Unit 10 – Assignment #3: Subtracting Polynomials (P. 436)

*Find the difference of each polynomial.*

1) (2x + 3x2) – (7 – 8x2) 2) (3c3 – c + 11) – (c2 + 2c + 8)

3) (2x + 2y + 1) – (3y + 4x) 4) (5n – 2p2 + 2np) – (4p2 + 4n)

5) (4rxt – 8r2x + x2) – (6rx2 + 5rxt – 2x2) – (-8r2x + rxt)

Unit 10 – Assignment #4: Multiplying Polynomials with Distribution/FOIL (P. 404/441)

*Simplify each expression.*

1) k(k3) 2) (m4)(m2) 3) (q2)(2q4)

4) x (x + 2) 5) (2x + 1) (x – 3) 6) x (x2 + 2x + 1)

Unit 10 – Assignment #3: Subtracting Polynomials (P. 436)

6) Cheyenne and Sebastian are finding (2x2 –x) – (3x + 3x2 – 2). Is either of them correct? Explain your reasoning.

 Cheyenne Sebastian

 (2x2 – x) – (3x + 3x2 – 2) (2x2 – x) – (3x + 3x2 – 2)

 = (2x2 – x) + (-3x + 3x2 – 2) = (2x2 – x) + (-3x - 3x2 – 2)

 =5x2 – 4x – 2 =-x2 – 4x – 2

7) Write two *binomials* with a difference of 3x2 + 4.

Unit 10 – Assignment #4: Multiplying Polynomials with Distribution/FOIL (P. 404/441)

*Find the area of each parallelogram and express the answer as a monomial. Use A = lw.*

6) 7)

 x (x – 2)

 (x + 4) (x + 3)

*Simplify each expression.*

8) x2 (x + 2x + 1) + (x + 2) 9) x (x + 2) – x (2x – 3) 10) Draw a smiley face.

Unit 10 – Assignment #5: Multiplying Polynomials with Box Method (P. 404/442)

*Simplify each expression using the “Box Method”.*

1) (x + 7) (x + 2) 2) (c + 4) (2c – 3) 3) (y – 1) (y + 1)

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4) (7g + 5) (2g – 1) 5) (x + 5) (x + 5) 6) (a + b)2

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Unit 10 – Assignment #6: Multiplying Polynomials (Mixed)

*Simplify each expression using any method.*

1) (3x + 8) (x – 2) 2) 3(5x2 + 2x – 4) 3) (x + 3)2

4) (x + 4) (x2 + 3x – 5) 5) 2(x + 5) (x + 9)

Unit 10 – Assignment #5: Multiplying Polynomials with Box Method (P. 404/442)

*The Box Method is good for multiplying binomials, but you can use it to multiply all kinds of polynomials! Use the Box Method to find the products of the following polynomials.*

7) (2m + 1) (m2 + 5m – 2)

8) (2a + b) (2a + b + 4)

Unit 10 – Assignment #6: Multiplying Polynomials (Mixed) (Pg. 441)

*Ok, kids. Here’s a fun one! Use everything you’ve learned from this Unit to solve the following problem. You got this! Solve for a and show all work!*

2x(5x – 2) + 3x(2x + 6) + 8 = x(4x + 1) + 2x(6x – 4) + 50