

Name: _____

Date: _____

UNIT 1

LESSON 1

AIM: HOW DO WE MULTIPLY POLYOMIALS?

Do Now:

1) Multiply: $2(x + 7)$

2) Match the following words to the appropriate definitions

1. _____ Degree	a. A single number or variable or number/variable multiplied together
2. _____ Binomial	b. The highest exponent in a polynomial expression
3. _____ Trinomial	c. The number in front of a variable
4. _____ Constant	d. A polynomial with two terms
5. _____ Coefficient	e. A small number written to the top right which indicates how many times that number should be multiplied
6. _____ Term	f. A single number with no variable attached to it (the y-intercept)
7. _____ Exponent	g. A polynomial with three terms

3. Given the following polynomial:

$$P(x) = 2x^4 - 8x^3 - 5x^2 + 4x - 7$$

The diagram shows the polynomial equation $P(x) = 2x^4 - 8x^3 - 5x^2 + 4x - 7$ enclosed in a black rectangular box. Five colored arrows point from below to specific parts of the equation: a red arrow points to the coefficient 2, a blue arrow points to the exponent 4, a green arrow points to the coefficient -5, a purple arrow points to the coefficient 4, and an orange arrow points to the constant term -7.

a) What is the degree?

b) What is the constant (y-intercept)?

QUARTIC

c) Try to continuing labeling each term according to the "degree".

1) $(x + 4)(x - 3)$

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

3) Multiply $(x^2 + 3x + 1)(x^2 - 5x + 2)$

****PUT IN _____ TERMS THAT ARE MISSING "IN BETWEEN" IF USING THE TABULAR METHOD**

Practice: Perform the indicated operation. Simplify each expression.

1) $(x^2 - y^2)(x^2 + y^2)$

* _____

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

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

4) $(x - 4)^3$

$$5) n(n + 1)(n + 2)$$

$$6) x^3(x + 6) + 9$$

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

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EXIT TICKET

Perform the indicated operation. Simplify each expression.

$$1) (x^2 - 4x + 4)(x + 3)$$

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LESSON 1

EXTRA PRACTICE

1) $(3m^3 + m^2 - 2m - 5)(m^2 - 5m - 6)$

2) $(3z^2 - 8)(3z^2 + 8)$

3) $(x + 2)^3$

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

5) a. Given the accompanying table, determine what type of relationship does the set of ordered pairs (x, y) satisfy? Explain how you know.

x	y
0	1
1	4
2	7
3	10
4	13
5	16

b. What is the y-intercept?

c. What are the coordinates of the y-intercept?