

REVIEW: Polynomial Operations

I will be able to add, subtract, multiply, and divide polynomials.

Name _____

Per _____

Part 1: Classify each as **M** (monomial), **B** (binomial), **T** (trinomial), **P** (polynomial), or **C** (constant).

1). _____ $2x + 1$

2). _____ $17x^2 + 11$

3). _____ $8x^3 + 2x^2 + 3x - 7$

4). _____ -130

5). _____ $4a^2 + 7a - 10$

6). _____ $10x^3 - 2x + 1$

Part 2: Standard Form of Polynomials

7.) Circle the problems that are in **standard form**. If it is not in standard form, re-write in standard form.

a. _____ $x^3 - 11x^2$

b. _____ $2 + 3x + 4x^2 + 3x^3$

c. _____ $-3x + 17x^4 + 2x^2$

d. _____ $-1 + 3x + 2x^2$

8. Given: $2x^3 - 5x^2 - 2x + 12$

How many terms are there? _____ What is the coefficient of the 3rd term? _____ What is the constant? _____

Part 3: Add these polynomials. Only combine things that are alike (have the same exponent).

12.) $(19x^2 + 12x + 12) + (7x^2 + 10x + 13)$

13.) $(4x^2 - 6x + 7) + (-19x^2 - 15x - 18)$

14.) $(20x^2 + 15x + 13) + (-19x^2 + 17x + 5)$

15.) $(9x^6 - 4x^5) + (10x^5 - 15x^4 + 14)$

16.) $(9x^2 + 12) + (7x^2 + 10x + 13)$

17.) $(5x^6 + 9x^3 - 6x) + (-9x^6 - 20x^2 - 6x)$

Part 4: Subtract these polynomials.

18.) $(6x + 14)$
 $- (9x + 5)$

19.) $(14x^2 + 13x + 12)$
 $- (7x^2 + 20x + 4)$

20.) $(19x^2 + 9x + 16)$
 $- (5x^2 + 12x + 7)$

$$21.) (17x^2 + 7x - 14) - (-6x^2 - 5x - 18)$$

$$22.) (-18x^2 + 4x - 16) - (15x^2 + 4x - 13)$$

Part 5: Multiplying Monomials

$$23.) 2x(4x^2)$$

$$24.) 17x^2(2x^5)$$

$$25.) -3x^3(4x^2)$$

$$26.) -12x^2(-2x)$$

Part 6: Use the distributive property to find the product (multiply).

$$27.) 4(x + 2)$$

$$28.) -3(2x^2 + 1)$$

$$29.) 6(x^2 + 2x + 7)$$

$$30.) 4x(1 - x)$$

$$30.) -x^2(x + 5)$$

$$31.) 3x^2(4x^3 - 5x + 10)$$

$$32.) 3x(-x^2 + 2x - 12)$$

BONUS FRIDAY!!!!

Use the FOIL Method to simplify the following:

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

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

$$(x - 7)(x - 6)$$

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

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

$$(x - 4)(x - 2)$$