Name Key Date _____ Hour _____

Algebra 1 Polynomials Review

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

1). B $2x+1$ 2). B $17x^2+11$ 3). P $8x^3+2x^2+3x-7$

4). C -130 5). T $4a^2+7a-10$ 6). T $10x^3-2x+1$

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

_____ $3x^3+4x^2+3x+2$ $17x^4+2x^2-3x$ $2x^2+3x-1$

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

How many terms are there? 4 What is the leading coefficient? 2 What is the constant? 12

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

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

$26x^2+22x+25$

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

$-15x^2-21x-11$

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

$x^2+32x+18$

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

$9x^6+6x^5-15x^4+14$

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

$16x^2+10x+25$

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

$-4x^6+9x^3-20x^2-12x$

Part 4: Subtract these polynomials.

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

$-3x+9$

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

$7x^2-7x+8$

Name _____ Date _____ Hour _____

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

$23x^2 + 12x + 4$

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

$-33x^2 - 3$

Part 5: Multiplying Monomials

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

$8x^3$

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

$34x^7$

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

$-12x^5$

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

$24x^3$

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

27.) $4(x+2)$

$4x+8$

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

$-6x^2-3$

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

$6x^2+12x+42$

30.) $3x^2(4x^3 - 5x + 10)$

$12x^5-15x^3+30x^2$

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

$4y^3 - 3y^2 + 2y$
$-20y^2 + 15y - 10$

$4y^3 - 23y^2 + 17y - 10$

32.) $(3b^2 - 4b)(2b^2 - b + 7)$

$6b^4 - 3b^3 + 21b^2$
$-8b^3 + 4b^2 - 28b$

$6b^4 - 11b^3 + 25b^2 - 28b$

Use the FOIL Method to simplify the following:

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

$x^2 + x - 12$

34.) $(2x + 4)(2x + 3)$

$4x^2 + 14x + 12$

35.) $(x - 7)(x - 6)$

$x^2 - 13x + 42$

36.) $(3x - 1)(x + 5)$

$3x^2 + 14x - 5$