Name: _____ **Unit 7:** Polynomials & Factoring

Date: _____ **Bell:** _____ **Homework 1:** Classifying Polynomials; Adding & Subtracting Polynomials

Directions: Classify the following polynomials by degree and number of terms.	
1. $3x + 12$	**2.** $-7x^2 + 4x - 1$
3. $x^3 - 8$	**4.** 24
5. $2x^4 - x^3 + 5x^2 + x - 7$	**6.** $10x$

Directions: Write the following polynomials in standard form.	
7. $y^2 + 3y^4 - 7y + 2y^3 - 4$	**8.** $9x^4 - 2x^2 + 7x - 8x^3 + x^5 - 4$
9. $-2b^2 + 5ab + 7a^2$	**10.** $-3m^2n^2 + 8mn^3 + m^3n$

Directions: Find the sum/difference. **Answers must be in standard form.**	
11. $(x^2 - 4x + 3) + (3x^2 - 3x - 5)$	**12.** $(8x^2 - 12x + 4) - (3x^2 + 5x - 1)$
13. $(2x - 3 + 7x^2) - (3 - 9x^2 - 2x)$	**14.** $(7x^2 + 3x) - (5x^2 + 4)$
15. $(3x^2 - x + 3) + (4x^2 - 5)$	**16.** $(5x^3 - x + 2x^2 + 4) + (3x^2 + 1 - 4x)$
17. $(2x^2 + 3y^2 - z^2) - (x^2 - y^2 - z^2) + (4x^2 - 3y^2)$	**18.** $(12 + 8x^3 + 3x - 4x^2) + (5x^3 + 15 - x + 2x^2)$
19. Find the sum of $2x^2 - 6x - 2$ and $x^2 + 4x$	**20.** Subtract $-a^2 - 5ab + 3b^2$ from $3a^2 - 2ab + 3b^2$

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Exponents & Exponential Functions

Negative Exponents

1. x^{-7}	**2.** $5x^{2}y^{-3}$	**3.** $-4a^{-2}b^{-2}$
4. $(ab^{2})^{-4}$	**5.** $-8(x^{-3}y^{4})^{-5}$	**6.** $(3x)^{-3}$
7. $(a^{-2})(a^{-3})$	**8.** $(x^{3})^{-3}(-2y^{5})^{4}$	**9.** $(a^{2}b^{3})^{-2}(a^{5}b^{4})^{-3}$
10. $(2r^{4})^{-5}$	**11.** $(-11x^{3}y)^{-2}$	**12.** $(x^{3}y^{6})^{-2} + (x^{2}y^{4})^{-3}$
13. $\frac{m}{m^{2}}$	**14.** $\frac{-4x^{2}}{24x^{5}}$	**15.** $\frac{-21w^{5}x^{2}}{7w^{4}x^{5}}$
16. $\frac{9a^{2}bc^{4}}{15ab^{3}c^{5}}$	**17.** $\frac{9x^{4}y^{3}}{3x^{10}y^{7}}$	**18.** $\frac{7a^{5}b^{6}c}{14a^{5}b^{9}}$
19. $\frac{-9xy^{5}z^{3}}{36xy^{4}z^{5}}$	**20.** $\frac{-15r^{6}s^{7}t^{4}}{3r^{2}s^{9}t^{7}}$	**21.** $\frac{(4x^{2}y^{5})^{2}}{(2xy^{2})^{3}(3x^{3})^{2}}$

Alg1R REVIEW EXPONENTS Name:_____

1) $\frac{2z^{-2}y^{7}}{10yz^{5}}$	2) $(xy)^5\,(x^6y^3)^4$	3) $8^0 \cdot 2^{-4}$
4) $(-2x^{10})^5$	5) $(-6m^{-7}n^{-5}p\,)(4m^2n^8p^5)$	6) $\frac{x^{11}}{x^{-5}}$
7) $(3ab^4)^4\,(2ab)$	8) $\frac{12a^{-6}c^{-4}}{16c^{-2}b\,d^{-5}}$	9) $27^{\frac{2}{3}}$
10) $\left(\frac{2y^3}{3x}\right)^4$	11) $8^{\frac{5}{3}} + 144^{\frac{1}{2}}$	12) $\frac{(6x^5)(8x^4)}{x^{11}}$
13) $(uv^6w^{25}xy^{-12}z^{52})^0$	14) $(9x^4)(7x^{-7})$	15) $(y^{-3})^{-10}\,y^3$