Secondary Math III
Unit 2 Review

Name _____
Period _____

1. Write the following polynomial in standard form and state the degree $6x^3 + 5x^7 - 2x^9 + 4x^2 + 5$

2. What kind of polynomial is $x^2 + 3x + 2$? (circle all that apply)

a) linear b) cubic c) quadratic d) constant

e) monomial f) Binomial g) trinomial e) polynomial

Complete the polynomial operation. *(Lesson 6.1, 6.2, 6.3, 6.5)*

3. $(8x^3 - 2x^2 - 4x + 8) + (5x^2 + 6x - 4)$

4. $5x(x + 2)(3x - 7)$

5. $(-4x^2 - 2x + 8) - (x^2 + 8x - 5)$

6. $(3x^3 + 12x^2 + 11x - 2) \div (x + 2)$

7. $(x + y)^6$

8. $(5x + y)^4$

9. $(4x^2 + 3x + 2)(3x^2 + 2x - 1)$

10. $(57x^{18} - x^2) - (6x - 71x^3 + 5x^2 + 2)$

11. $(9x^4 + x^3 + 11x^2 - 4) \div (x^2 + 16)$

12. $(16 - x^2) + (-18x^2 + 7x^5 - 10x^4 + 5)$

Factor the polynomial. *(Lesson 6.4)*

13. $3x^2 + 4x - 4$

14. $2x^3 + 4x^2 - 30x$

15. $9x^2 - 25$

16. $4x^2 - 16x + 16$

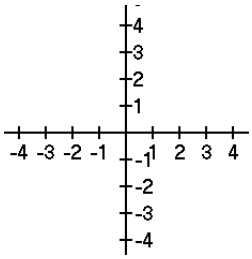
17. $x^3 + 8x^2 + 6x + 48$

18. $8x^4 + 8x^3 + 27x + 27$

Review

Graph the following functions **without** using a calculator. Next, identify the parent function, list the transformations involved, and also include the new domain and range.

19. $g(x) = \sqrt{x+1} - 2$



Parent Function: _____

Domain: _____

Range: _____

x-int: _____

y-int: _____

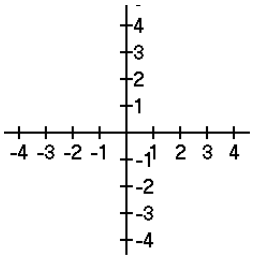
Left EB: _____

Right EB: _____

Inc: _____

Dec: _____

20. $h(x) = 2(x - 1)^2 - 2$



Parent Function: _____

Domain: _____

Range: _____

x-int: _____

y-int: _____

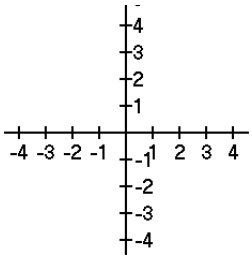
Left EB: _____

Right EB: _____

Inc: _____

Dec:_____

21. $i(x) = -3|x+1| + 3$



Parent Function: _____

Domain: _____

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