Name: Selected Answers Date: _____

Homework: Unit 1 – Foundations **Honors PreCalculus**

All homework must be completed NEATLY on your own paper.

Homework 1.7: Factoring (Day 2)

Factor the following expressions completely.

1. $3b^3 - 5b^2 + 2b$

$b(3b-2)(b-1)$

2. $9p^2r + 73pr + 70r$

$r(p+7)(9p+10)$

3. $4x^{\frac{3}{2}} + 43x^{\frac{1}{2}} + 30x^{-\frac{1}{2}}$

$x^{-\frac{1}{2}}(x+10)(4x+3)$

4. $28n^4 + 16n^3 - 80n^2$

$4n^2(n+2)(7n-10)$

5. $5x^4 - 9x^2 + 4$

$(5x^2-4)(x-1)(x+1)$

6. $3x^5 - 2x^3 - 8x$

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

7. $x^6 + 2x^3 - 3$

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

8. $3n^3 - 4n^2 + 9n - 12$

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

9. $5n^3 - 10n^2 + 3n - 6$

$(n-2)(5n^2+3)$

10. $8x^3 + 27$

$(2x+3)(4x^2-6x+9)$

11. $x^3 - 216y^3$

$(x-6y)(x^2+6xy+36y^2)$

12. $x^3 - 5x^2 - x + 5$

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

13. $x^6 - 26x^3 - 27$

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

14. $x^5 + 2x^4 - 16x^2 - 32$

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

15. $4x^3 - x^2 - 4x + 1$

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

16. $3b^3 - 5b^2 + 2b$

$b(b-1)(3b-2)$

17. $10x^3 - 8x^2 + 25x - 20$

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

18. $27x^9 + x^6 - 27x^3 - 1$

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

OR

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