

Name: Selected Answers

Date: _____

Homework: Unit 1 – Foundations

Honors PreCalculus

*All homework must be completed NEATLY on your own paper.***Homework 1.6: Factoring (Day 1)***Factor the following expressions completely.*

1. $6x^2 - 23x + 7$

$$(2x-7)(3x-1)$$

2. $75x^2 - 27$

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

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

$$(x-9)(x-8)$$

4. $16x^2 - 80x + 100$

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

5. $3(a-3)^2 + 17(a-3) + 10$

$$(a+2)(3a-7)$$

6. $24x^3 - 18x^2 - 15x$

$$3x(4x-5)(2x+1)$$

7. $6(x+5)^2 - 5(x+5) + 1$

$$(3x+14)(2x+9)$$

8. $(x^2 - 3)^{\frac{3}{2}} - (x^2 - 3)^{\frac{1}{2}}$

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

9. $x^2(x^2 - 1) - 9(x^2 - 1)$

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

10. $6x^{\frac{3}{2}} - 7x^{\frac{1}{2}} - 5x^{-\frac{1}{2}}$

$$x^{-\frac{1}{2}}(3x-5)(2x+1)$$

11. $x^{\frac{3}{2}} - 2x^{\frac{1}{2}} + x^{-\frac{1}{2}}$

$$x^{-\frac{1}{2}}(x-1)^2$$

12. $8x^2(x-3)^4(x+5)^3 + 16x(x-3)^3(x+5)^4$

$$8x(x-3)^3(x+5)^3[x^2 - x + 10]$$

