

Name: _____ Date: _____

Unit Exam: Factoring Quadratics Exam

PART I Questions 1 – 6 are worth 2 points each.

Determine the Sum/ Difference.

1. $4x^2 + 9x - 6 - (x^2 - 16 + 11x)$

2. $(x^4 + 3x^3 - 8x^2 + 13) + (5x^2 + 8x^2 - 1)$

Answer: _____

Answer: _____

Simplify Each by Multiplying:

3. $(3x - 7)(4x + 11)$

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

Answer: _____

Answer: _____

Factor Each Completely:

5. $x^2 - 5x - 14$

Answer: _____

6. $3x^2 - 8x + 4$

Answer: _____

PART II Questions 7 - 11 are worth 2 points each.

7. Factor Completely $2x^3 + 12x^2 + 18x$

Answer: _____

8. Factor Completely $x^2 - 49$

Answer: _____

9. Factor Completely $3x^2 - 27$

Answer: _____

10. Factor Completely $x^2 - y^2$

Answer: _____

11. Factor Completely $x^4 - 1$

Answer: _____

PART III Questions 12 and 13 are worth 3 points each.

12. Solve the quadratic equation below by factoring.

$$x^2 - 10x - 24 = 0$$

Answer: _____

13. Solve the quadratic equation below by factoring.

$$4x^2 - x - 14 = 0$$

Answer: _____

PART IV Questions 14 and 15 are worth 6 points each.

14. Solve Each Quadratic Equation Using Each Method Given:

$$2x^2 - 12x - 14 = 0$$

1. Factoring

2. Completing the Square

3. Quadratic Formula

15. Solve Each Quadratic Equation Using Each Method Given:

$$x^2 + 12x = -32$$

1. Factoring

2. Completing the Square

3. Quadratic Formula