Math III– Unit 3 Quiz Review **Name** _____

For question 1 - 3, **simplify**, write in standard form, and **classify** using the degree and # of terms.

1. $(8x^3 + 14x^2 - 2) + (-2x^3 + 7)$

Standard form: _____
Classify- Degree: _____
Classify- # of term(s): _____

2. $(x^5 - 10x^3 + 5x - 3) - (x^4 - 5x^3 + 1)$

Standard form: _____
Classify- Degree: _____
Classify- # of term(s): _____

3. $(3x + 6)(2x - 4)$

Standard form: _____
Classify- Degree: _____
Classify- # of term(s): _____

Factor Completely. SHOW ALL WORK.

4. $x^2 + 3x - 40$

5. $2x^2 - 10x + 8$

6. $2x^3 - 13x^2 - 7x$

7. $x^4 + 4x^2 - 12$

8. $12x^5 - 2x^4 - 30x + 5$

Solve by factoring. Show ALL work and give exact answers.

9. $x^2 - x + 4 = 0$

10. $2x^2 + 15x = 8$

11. **Solve by the square root method. Give exact answers.**

$$2x^2 + 18 = 0$$

12. **Solve by completing the square. Give exact answers.**

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

13. **Solve by the quadratic formula. Give exact answers.**

$$2x^2 - 7x + 8 = 0$$