Name _____ Date _____

Algebra 2   Factoring and Solving Polynomials

1.   What is a polynomial function?

2.   Give an example of a "higher order polynomial."

3.   How is solving different from factoring?

Factor the following higher order polynomials <u>completely</u>.

3. $x^3 + 27$ 4. $8b^3 - 1$

5. $2x^5 - 50x$ 6. $x^4 - 81$

7. $3x^4 + 6x^2 - 24$ 8. $2b^4 - b^2 - 15$

9. $x^3 + 5x^2 - 4x - 20$

10. $10m^3 - 2m^2 + 15m - 3$

11. $x^6 + 7x^3 - 8$

12. $4x^4 - 12x^2 + 9$

Solve the following equations.

13. $2x^3 - 6x^2 - 5x + 15 = 0$

14. $x^4 - 13x^2 + 36 = 0$

15. $2x^5 - 68x^3 + 450x = 0$

16. $2x^4 = 16x$