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Date \_\_\_\_\_  
Algebra II

## ***Polynomial Equations with Irrational/Imaginary Solutions***

**Solve each of the following equations and express irrational answers in simplest radical form or simplest  $a + bi$  form**

1.  $x^3 + 2x^2 = 4x$

2.  $x^3 + 3x = 2x^2$

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

4.  $3x^4 + 6x^3 + 3x^2 = 0$

5.  $2x^3 + 58x = 20x^2$

6.  $2x^3 - 3x^2 = -18x + 21$

7.  $4x^3 - 10x^2 + 2x = 0$

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

$$9. x^4 - 4x^2 - 32 = 0$$

$$10. x^3 - 3x^2 - 5x + 15 = 0$$

$$11. 3x^3 + 12x^2 = -6x$$

$$12. x^4 + 4x^3 + 4x^2 = -16x$$

$$13. 2x^4 - 22x^2 + 36 = 0$$

$$14. 3x^5 - 48x = 0$$

$$15. 6x^3 + 18x^2 - 9x = 0$$

$$16. x^4 - 6x^2 - 27 = 0$$