

Name _____
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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. $x^4 + 8x^2 = 9$

2. $x^4 + 4x^2 = 45$

3. $x^3 + 3x^2 + 4x + 12 = 0$

4. $x^3 - 3x^2 = -16x + 48$

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

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

$$7. x^4 - 4x^2 - 32 = 0$$

$$8. x^3 - 3x^2 - 5x + 15 = 0$$

$$9. 2x^3 - 3x^2 = -18x + 21$$

$$10. x^4 - 6x^2 - 27 = 0$$

$$11. x^4 + 4x^3 + 4x^2 = -16x$$

$$12. 3x^5 - 48x = 0$$