

Equations for Algebra 2 - Practice Worksheet

Name: _____ Date: _____

Instructions: Solve each equation. Show all steps. Simplify your answer fully. Answers are provided in the Answer Key.

1. $x^2 - 5x + 6 = 0$

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2. $2x^2 + 3x - 2 = 0$

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3. $x^2 - 4x + 1 = 0$ (use quadratic formula)

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4. $(x + 3) / (x - 1) = 2$

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5. $\sqrt{x + 5} = 4$

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6. $\sqrt{2x - 1} = x - 2$

.....

7. $3^x = 81$

.....

8. $2^{(x+1)} = 32$

.....

9. $\log_2(x) = 5$

.....

10. $\ln(x) + \ln(x - 1) = \ln(6)$

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11. $2x + y = 7$ and $x - y = 2$ (solve the system)

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12. $x^2 + y = 10$ and $y = x + 4$ (solve the system)

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Answer Key

1. $x = 2$ or $x = 3$

2. $x = 1/2$ or $x = -2$

3. $x = 2 + \sqrt{3}$ or $x = 2 - \sqrt{3}$

4. $x = 5$

5. $x = 11$

6. $x = 5$ (check: $x=1$ is extraneous)

7. $x = 4$

8. $x = 4$

9. $x = 32$

10. $x = 3$

11. $x = 3, y = 1$

12. $x = -3, y = 1$ and $x = 2, y = 6$