

Name _____
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Date _____
Algebra II



Solving Quadratic Equations Regents Practice

1. What are the solutions to $4x^2 - 7x - 2 = -10$

1) $-\frac{1}{4}, 2$

3) $\frac{7}{8} \pm \frac{\sqrt{241}}{8}$

2) $\frac{7}{8} \pm \frac{\sqrt{79}}{8}i$

4) $\frac{7}{8} \pm \frac{\sqrt{143}}{8}i$

2. The solutions to the equation $3x^2 - 4x + 2 = 2x - 3$ are

1) $\frac{2}{3} \pm \frac{\sqrt{2}}{3}i$

3) $1 \pm \frac{\sqrt{12}}{3}$

2) $1 \pm \frac{\sqrt{6}}{3}i$

4) $1 \pm 2\sqrt{6}i$

3. The roots of the equation $0 = x^2 + 6x + 10$ in simplest $a + bi$ form are

1) $-3 \pm 2i$

3) $-3 \pm i$

2) $-6 \pm i$

4) $-3 \pm i\sqrt{2}$

4. The roots of the equation $x^2 - 4x = -13$ are

1) $2 \pm 3i$

3) $2 \pm \sqrt{17}$

2) $2 \pm 6i$

4) $2 \pm \sqrt{13}$

5. A solution of the equation $2x^2 + 3x + 2 = 0$ is

1) $-\frac{3}{4} + \frac{1}{4}i\sqrt{7}$

3) $-\frac{3}{4} + \frac{1}{4}\sqrt{7}$

2) $-\frac{3}{4} + \frac{1}{4}i$

4) $\frac{1}{2}$

6. The solutions to the equation $-\frac{1}{2}x^2 = -6x + 20$ are

1) $-6 \pm 2i$

2) $-6 \pm 2\sqrt{19}$

3) $6 \pm 2i$

4) $6 \pm 2\sqrt{19}$

7. Which equation has roots of $3 + i$ and $3 - i$?

1) $x^2 - 6x + 10 = 0$

3) $x^2 - 10x + 6 = 0$

2) $x^2 + 6x - 10 = 0$

4) $x^2 + 10x - 6 = 0$

8. If a solution of $2(2x - 1) = 5x^2$ is expressed in simplest $a + bi$ form, the value of b is

- 1) $\frac{\sqrt{6}}{5}i$ 3) $\frac{1}{5}i$
2) $\frac{\sqrt{6}}{5}$ 4) $\frac{1}{5}$

Solve the following equations and express your answer in *simplest $a+bi$ form*.

9. $x^2 + 3x + 11 = 0$

10. $3x^2 + 5x + 8 = 0$

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

12. $4x^2 + 2x = -1$

13. $2x^2 - 6x = -5$

14. $3x^2 = 4x - 2$