

Review: Solving Quadratic Equations

Solve each equation by the method of Square Roots.

1) $x^2 = 20$

2) $2x^2 - 48 = 0$

Solve each equation using the Quadratic Formula.

3) $x^2 + 8x + 15 = 0$

4) $2x^2 - 7x = -5$

Solve each equation using any method.

5) $3x^2 + 6 = 0$

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

7) $2x^2 + 1 = -8x$

8) $5x^2 + 10 = 15$

Find the value of the discriminant. How many solutions?

9) $x^2 + x + 1 = 0$

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

11) $2x^2 + 3 = 2x$

12) $-x^2 = 10x + 25$

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Answers:

1) $\{\pm 2\sqrt{5}\}$

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

3) $\{-5, -3\}$

4) $\{1, 5/2\}$

5) \emptyset

6) $\{-3 \pm \sqrt{13}\}$

7) $\left\{\frac{-4 \pm \sqrt{14}}{2}\right\}$ OR $\left\{-2 \pm \frac{\sqrt{14}}{2}\right\}$

8) $\{\pm 1\}$

9) $D = -3$
no \mathbb{R} sol'ns

10) $D = 1$
two \mathbb{R} sol'ns

11) $D = -20$
no \mathbb{R} sol'ns

12) $D = 0$
one \mathbb{R} sol'n