

A2: Mixed Solving With Quadratics

Determine the best method to solve each quadratic equation. Then find the roots.

1. $x^2 - 5x - 24 = 0$

2. $x^2 - 60 = 0$

3. $12x^2 - 4x = 5$

4. $3x^2 + 20 = 0$

5. $5x^2 - 15x = 0$

6. $4x^2 - 144 = 0$

7. $-3x^2 - 10x + 8 = 0$

8. $x^2 + 4x - 45 = 0$

9. $5(x-3)^2 + 4 = -56$

Find the zeros using the best method. Do NOT repeat a method.

10. $y = \frac{1}{2}(x-5)^2 - 100$

11. $y = 4x^2 - 4x + 1$

12. $y = x^2 - 2x - 1$

ANSWERS

1. $x = 8, -3$

2. $x = \pm 2\sqrt{15}$

3. $x = -\frac{1}{2}, \frac{5}{6}$

4. $\pm \frac{2i\sqrt{15}}{3}$

5. $x = 0, 3$

6. $x = \pm 6$

7. $x = \frac{2}{3}, -4$

8. $x = 5, -9$

9. $x = 3 \pm 2i\sqrt{3}$

10. $x = 5 \pm 10\sqrt{2}$

11. $x = \pm \frac{1}{2}$

12. $1 \pm \sqrt{2}$