

Solving Quadratics Using Square Root Method

Instructions

Solve each quadratic equation below using the square root method. Show all necessary steps. Answers should be simplified as much as possible. Where appropriate, give both the positive and negative solutions.

Example

Solve for x : $x^2 = 16$

Solution:

Take the square root of both sides: $x = \pm\sqrt{16}$ $x = \pm 4$

So, the solutions are: $x = 4$ or $x = -4$

1. Solve for x : $x^2 = 49$
2. Solve for x : $x^2 = 20$
3. Solve for y : $y^2 = 81$
4. Solve for x : $x^2 - 36 = 0$
5. Solve for x : $x^2 + 8 = 0$
6. Solve for z : $z^2 = 0$
7. Solve for x : $4x^2 = 100$
8. Solve for x : $x^2 - 25 = 24$
9. Solve for x : $9x^2 = 144$
10. Solve for x : $x^2 + 10 = 19$

Answer Key

1. $x = 7$ or $x = -7$

2. $x = 2\sqrt{5}$ or $x = -2\sqrt{5}$

3. $y = 9$ or $y = -9$

4. $x = 6$ or $x = -6$

5. $x = 2i\sqrt{2}$ or $x = -2i\sqrt{2}$ (no real solutions)

6. $z = 0$

7. $x = 5$ or $x = -5$

8. $x = 7$ or $x = -7$

9. $x = 4$ or $x = -4$

10. $x = 3$ or $x = -3$