

Solve the quadratic equation by factoring.

1. $6x^2 + 3x = 0$

$$x = 0, -\frac{1}{2}$$

3. $x^2 - 10x + 9 = 0$

$$x = 9, 1$$

5. $3 + 5x - 2x^2 = 0$

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

2. $x^2 - 2x - 8 = 0$

$$x = 4, -2$$

4. $16x^2 + 56x + 49 = 0$

$$x = -\frac{7}{4}$$

6. $2x^2 = 19x + 33$

$$x = -\frac{3}{2}, 11$$

Solve the equation by extracting square roots.

7. $x^2 = 27$

$$x = \pm 3\sqrt{3}$$

8. $3x^2 = 36$

$$x = \pm 2\sqrt{3}$$

9. $(x-7)^2 = 18$

$$x = 7 \pm 3\sqrt{2}$$

10. $(x+4)^2 = 20$

$$x = -4 \pm 2\sqrt{5}$$

Solve the quadratic equation by completing the square.

11. $x^2 + 4x - 32 = 0$

$$x = 8, -4$$

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

$$x = 1 \pm \sqrt{6}$$

13. $x^2 + 8x + 14 = 0$

$$x = -4 \pm \sqrt{2}$$

14. $x^2 - 3x - 7 = 0$

$$x = \frac{3 \pm \sqrt{37}}{2}$$

15. $x^2 + 5x - 3 = 0$

$$x = \frac{-5 \pm \sqrt{37}}{2}$$

16. $x^2 - 7x - 3 = 0$

$$x = \frac{7 \pm \sqrt{61}}{2}$$