

Solving Quadratic Equations (A)

Solve each equation for x.

1. $4x^2 + 20x + 9 = 0$

11. $-2x^2 - 11x + 40 = 0$

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

12. $x^2 + 10x + 16 = 0$

3. $x^2 - 9 = 0$

13. $3x^2 - 22x - 16 = 0$

4. $2x^2 + 13x + 18 = 0$

14. $4x^2 + 31x - 45 = 0$

5. $2x^2 - 25x + 63 = 0$

15. $-3x^2 + 11x + 42 = 0$

6. $-2x^2 + 11x - 14 = 0$

16. $3x^2 - 22x + 24 = 0$

7. $4x^2 + 17x - 15 = 0$

17. $-4x^2 - 5x - 1 = 0$

8. $-4x^2 + 12x + 27 = 0$

18. $4x^2 + 24x + 27 = 0$

9. $x^2 + 12x + 36 = 0$

19. $3x^2 + 13x - 30 = 0$

10. $-4x^2 - 20x - 25 = 0$

20. $-4x^2 + 7x + 36 = 0$

Solving Quadratic Equations (A) Answers

Solve each equation for x.

1. $4x^2 + 20x + 9 = 0$
 $(2x + 1)(2x + 9) = 0$
 $x = -\frac{1}{2}, -4\frac{1}{2}$
2. $3x^2 - 5x + 2 = 0$
 $(x - 1)(3x - 2) = 0$
 $x = 1, \frac{2}{3}$
3. $x^2 - 9 = 0$
 $(x + 3)(x - 3) = 0$
 $x = -3, 3$
4. $2x^2 + 13x + 18 = 0$
 $(2x + 9)(x + 2) = 0$
 $x = -4\frac{1}{2}, -2$
5. $2x^2 - 25x + 63 = 0$
 $(2x - 7)(x - 9) = 0$
 $x = 3\frac{1}{2}, 9$
6. $-2x^2 + 11x - 14 = 0$
 $-(x - 2)(2x - 7) = 0$
 $x = 2, 3\frac{1}{2}$
7. $4x^2 + 17x - 15 = 0$
 $(4x - 3)(x + 5) = 0$
 $x = \frac{3}{4}, -5$
8. $-4x^2 + 12x + 27 = 0$
 $-(2x + 3)(2x - 9) = 0$
 $x = -1\frac{1}{2}, 4\frac{1}{2}$
9. $x^2 + 12x + 36 = 0$
 $(x + 6)(x + 6) = (x + 6)^2 = 0$
 $x = -6$
10. $-4x^2 - 20x - 25 = 0$
 $-(2x + 5)(2x + 5) = -(2x + 5)^2 = 0$
 $x = -2\frac{1}{2}$
11. $-2x^2 - 11x + 40 = 0$
 $-(x + 8)(2x - 5) = 0$
 $x = -8, 2\frac{1}{2}$
12. $x^2 + 10x + 16 = 0$
 $(x + 8)(x + 2) = 0$
 $x = -8, -2$
13. $3x^2 - 22x - 16 = 0$
 $(3x + 2)(x - 8) = 0$
 $x = -\frac{2}{3}, 8$
14. $4x^2 + 31x - 45 = 0$
 $(4x - 5)(x + 9) = 0$
 $x = 1\frac{1}{4}, -9$
15. $-3x^2 + 11x + 42 = 0$
 $-(3x + 7)(x - 6) = 0$
 $x = -2\frac{1}{3}, 6$
16. $3x^2 - 22x + 24 = 0$
 $(x - 6)(3x - 4) = 0$
 $x = 6, 1\frac{1}{3}$
17. $-4x^2 - 5x - 1 = 0$
 $-(4x + 1)(x + 1) = 0$
 $x = -\frac{1}{4}, -1$
18. $4x^2 + 24x + 27 = 0$
 $(2x + 3)(2x + 9) = 0$
 $x = -1\frac{1}{2}, -4\frac{1}{2}$
19. $3x^2 + 13x - 30 = 0$
 $(x + 6)(3x - 5) = 0$
 $x = -6, 1\frac{2}{3}$
20. $-4x^2 + 7x + 36 = 0$
 $-(4x + 9)(x - 4) = 0$
 $x = -2\frac{1}{4}, 4$