



In this worksheet you will practise rewriting quadratic equations in completed square form to reveal their solutions. For each question, complete the square and express the quadratic in the form  $(x + p)^2 = q$ , then solve for  $x$ .

## Easy Questions

1. Complete the square and solve the equation  $x^2 + 6x + 5 = 0$ .
2. Complete the square and solve the equation  $x^2 - 8x + 15 = 0$ .
3. Complete the square and solve the equation  $x^2 + 4x + 4 = 0$ .
4. Complete the square and solve the equation  $x^2 + 10x + 21 = 0$ .
5. Complete the square and solve the equation  $x^2 - 2x - 3 = 0$ .

## Intermediate Questions

11. Complete the square and solve the equation  $2x^2 + 8x + 6 = 0$ .
12. Complete the square and solve the equation  $3x^2 + 12x - 15 = 0$ .
13. Complete the square and solve the equation  $4x^2 - 12x + 9 = 0$ .
14. Complete the square and solve the equation  $5x^2 + 20x + 15 = 0$ .
15. Complete the square and solve the equation  $2x^2 - x - 1 = 0$ .
16. Complete the square and solve the equation  $6x^2 + x - 2 = 0$ .
17. Complete the square and solve the equation  $-3x^2 + 6x - 1 = 0$ .
18. Complete the square and solve the equation  $x^2 - 14x + 45 = 0$ .
19. Complete the square and solve the equation  $4x^2 + 4x - 5 = 0$ .
20. Complete the square and solve the equation  $7x^2 - 21x + 14 = 0$ .
21. Complete the square and solve the equation  $x^2 + \frac{3}{2}x - 2 = 0$ .
22. Complete the square and solve the equation  $\frac{1}{2}x^2 + x - 3 = 0$ .
23. Complete the square and solve the equation  $3x^2 - 5x - 2 = 0$ .

24. Complete the square and solve the equation  $2x^2 + 7x + 3 = 0$ .
25. Complete the square and solve the equation  $4x^2 - 8x - 1 = 0$ .

## Hard Questions

26. Complete the square and solve the equation  $2x^2 + 5x + 3 = 0$ .
27. Complete the square and solve the equation  $7x^2 + 2x - 5 = 0$ .
28. Complete the square and solve the equation  $5x^2 - 3x - 2 = 0$ .
29. Complete the square and solve the equation  $4x^2 + 7x + 3 = 0$ .
30. Complete the square and solve the equation  $6x^2 - x - 5 = 0$ .
31. Complete the square and solve the equation  $-2x^2 + 4x + 1 = 0$ .
32. Complete the square and solve the equation  $3x^2 - 11x + 6 = 0$ .
33. Complete the square and solve the equation  $8x^2 + 6x - 5 = 0$ .
34. Complete the square and solve the equation  $5x^2 + 9x + 4 = 0$ .
35. Complete the square and solve the equation  $4x^2 - 4x - 3 = 0$ .