



This worksheet focuses on using the quadratic formula to determine the real and complex roots of quadratic equations with confidence. You will solve various quadratic equations applying the formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$, ensuring you simplify your answers completely. All equations below are of the standard form $ax^2 + bx + c = 0$.

Easy Questions

1. Solve the equation $x^2 - 5x + 6 = 0$ using the quadratic formula.
2. Solve the equation $x^2 + 4x + 4 = 0$ using the quadratic formula.
3. Solve the equation $2x^2 - 3x - 2 = 0$ using the quadratic formula.
4. Solve the equation $3x^2 - 12 = 0$ using the quadratic formula.
5. Solve the equation $x^2 - 5x = 0$ using the quadratic formula.

Intermediate Questions

6. Solve the equation $2x^2 - 4x + 2 = 0$ using the quadratic formula.
7. Solve the equation $3x^2 + 2x - 1 = 0$ using the quadratic formula.
8. Solve the equation $5x^2 - x - 6 = 0$ using the quadratic formula.
9. Solve the equation $4x^2 + 4x + 1 = 0$ using the quadratic formula.
10. Solve the equation $2x^2 + 5x + 3 = 0$ using the quadratic formula.
11. Solve the equation $x^2 + x + 1 = 0$ using the quadratic formula.
12. Solve the equation $3x^2 - x + 2 = 0$ using the quadratic formula.
13. Solve the equation $6x^2 - 7x + 2 = 0$ using the quadratic formula.
14. Solve the equation $2x^2 - 9x + 10 = 0$ using the quadratic formula.
15. Solve the equation $7x^2 + 5x - 2 = 0$ using the quadratic formula.
16. Solve the equation $4x^2 - 4x + 1 = 0$ using the quadratic formula.
17. Solve the equation $x^2 - 2x + 5 = 0$ using the quadratic formula.

18. Solve the equation $8x^2 + 6x - 7 = 0$ using the quadratic formula.
19. Solve the equation $9x^2 - 12x + 4 = 0$ using the quadratic formula.
20. Solve the equation $5x^2 + x - 12 = 0$ using the quadratic formula.

Hard Questions

21. Solve the equation $3x^2 - 2x + \frac{1}{2} = 0$ using the quadratic formula.
22. Solve the equation $2x^2 - 3x + \frac{7}{2} = 0$ using the quadratic formula.
23. Solve the equation $7x^2 - 2x - 5 = 0$ using the quadratic formula.
24. Solve the equation $6x^2 + 11x + 4 = 0$ using the quadratic formula.
25. Solve the equation $10x^2 - x - \frac{3}{2} = 0$ using the quadratic formula.
26. Solve the equation $3x^2 + 7x + 2 = 0$ using the quadratic formula.
27. Solve the equation $x^2 - \frac{5}{2}x + \frac{1}{2} = 0$ using the quadratic formula.
28. Solve the equation $4x^2 + x + \frac{5}{4} = 0$ using the quadratic formula.
29. Solve the equation $9x^2 - x - 2 = 0$ using the quadratic formula.
30. Solve the equation $5x^2 + 4x + 8 = 0$ using the quadratic formula.