MATHS

BOOKS - KC SINHA ENGLISH

QUADRATIC EQUATIONS - FOR BOARDS

Solved Examples

1. Solve the following equation by fasctorization method: $9x^2 + 16 = 0$

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2. Solve the equation $x^2 + 2x + 10 = 0$ factorization method,

3. Let the function $f(x)$, defined as

$$f(x) = \{3ax + b, x > 111, x = 15ax - 2b, x < 1$$

be continuous at $x = 1$. If $a and b$ are roots of a quadratic equation then equation is

$x^2 - 5x + 6 = 0$ $\qquad x^2 - 5x + 6 = 0$

$$x^2 + 5x + 6 = 0 \qquad\qquad 3x^2 - 5x + 2 = 0$$

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

4. Solve the following equation by using the general expressions for roots of as quadratic equation: $x^2 - 14x + 58 = 0$

5. Solve the following equations by factorization method: $x^2 - ix + 6 = 0$

6. Solve the following equations by factorization method: $x^2 + 8ix - 16 = 0$

7. Solve the following equation by factorization method: $x^2 \left(3\sqrt{2} + 2i\right)x + 6\sqrt{2}i = 0$

8. Solve the equation $2x^2 + 3ix + 2 = 0$ using the general expression for a quadratic equation.

9. Solve the Equation

$$x^2 + \left(\sqrt{3} - 2\sqrt{2}i\right)x - 2\sqrt{6}i = 0 \quad \text{using the}$$

general epression for a quadratic equation.

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Exercise

1. Solve the equation by factorizatiion method:

$$2x^2 + 3 = 0$$

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2. Solve the following quadratic equation by factorization method only: $x^2 + x + 1 = 0$

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3. Solve the following quadratic equation by factorization method only: $x^2 + 2x + 5 = 0$

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4. Solve the equation by factorizatiion method:

$$x^2 - 4x + 7 = 0$$

5. Solve the equation by factorizatiion method:

$$x^2 - 4x + 13 = 0$$

6. Solve the equation $9x^2 - 12x + 20 = 0$ by factorization method only.

7. Solve the equation by using the general expression for roots of a quadratic equation:

$2x^2 - \sqrt{3}x + 1 = 0$

8. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 - 8x + 1 = 0$

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9. Solve the equation by using the general expression for roots of a quadratic equation:

$5x^2 - 6x + 2 = 0$

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10. Solve the equation by using the general expression for roots of a quadratic equation:

$$3x^2 - 7x + 5 = 0$$

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11. Solve the equation by using the general expression for roots of a quadratic equation:

$$8x^2 - 9x + 3 = 0$$

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12. Solve the equation by using the general expression for roots of a quadratic equation:

$9x^2 + 4 = 0$

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13. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 - x + 1 = 0$

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14. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 - 4x + 7 = 0$

15. Solve the equation by using the general expression for roots of a quadratic equation:

$27x^2 + 10x + 1 = 0$

16. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 + 2x + 2 = 0$

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17. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 + x + 1 = 0$

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18. Solve the equation by using the general expression for roots of a quadratic equation:

$$x^2 + 3x + 9 = 0$$

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19. Solve the equation by using the general expression for roots of a quadratic equation:

$$x^2 + 3 = 0$$

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20. Solve the equation by using the general expression for roots of a quadratic equation:

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

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21. Solve the equation by using the general expression for roots of a quadratic equation:

$$27x^2 + 10x + 1 = 0$$

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22. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 - x + 1 = 0$

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23. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 + 2 = 0$

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24. Solve the equation by using the general expression for roots of a quadratic equation:

$21x^2 - 28x + 10 = 0$

25. Solve the equation by using the general expression for roots of a quadratic equation:

$x^2 + x + 2 = 0$

26. Solve the equation by using the general expression for roots of a quadratic equation:

$$-x^2 + x - 2 = 0$$

27. Solve the equation by using the general expression for roots of a quadratic equation:

$$x^2 - 2x + \frac{3}{2} = 0$$

28. Solve the equation by using the general expression for roots of a quadratic equation:

$$x^2 + \frac{x}{\sqrt{2}} + 1 = 0$$

29. Solve the equation by using the general expression for roots of a quadratic equation:

$$3x^2 - 4x + \frac{20}{3} = 0$$

30. Solve the equation by using the general expression for roots of a quadratic equation:

$$x^2 + x + \frac{1}{\sqrt{2}} = 0$$

31. Solve $\sqrt{5}x^2 + x + \sqrt{5} = 0$.

32. Solve the equation:

$$\sqrt{3}x^2 - \sqrt{2}x + 3\sqrt{3} = 0$$

33. Solve the following equations by factorization method: $x^2 - 5ix - 6 = 0$

34. Solve the following equation by factorization method: $3x^2 + 7ix + 6 = 0$

35. Solve the following quadratic equation by factorization method:

$$x^2 + (1 - 2i)x - 2i = 0$$

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36. Solve the following quadratic equation by factorization method:

$$x^2 - (2\sqrt{3} + 3i)x + 6\sqrt{3}i = 0$$

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37. Solve the following equations by using the general expression for a quadratic equation:

$$x^2 + 4ix - 4 = 0$$

38. Solve the following quadratic equations by using he general expressions for the roots of a quadratic equation:

$$x^2 - \left(3\sqrt{2} - 2i\right)x - 6\sqrt{2}i = 0$$

$$2x^2 + 3ix + 2 = 0$$

39. Solve the following quadratic equation:

$$x^2 - (5 - i)x + (18 + i) = 0$$

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40. Solve the following equations by using the general expression for a quadratic equation:

$$x^2 - (7 - i)x + (18 - i) = 0$$

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41. Solve the following quadratic equation:

$$ix^2 - 4x - 4i = 0$$

42. Solve the following equations by using the general expression for a quadratic equation:

$$x^2 - 7ix - 12 = 0$$