

MATHEMATICS TEST: Quadratic Equations

(CLASS - 08)

Class-X

(Full Marks - 50)

(Section-A) → 4 marks Each. (Time - 1:30 hours)

- 1) Find the roots of the equation using quadratic formula
 $3x^2 - 2\sqrt{6}x + 2 = 0$
- 2) Find the roots of the equation using quadratic formula
 $x^2 - (\sqrt{3} + 1)x + \sqrt{3} = 0$
- 3) Find the roots using quadratic formula
 $x^2 + 6x + 6 = 0$
- 4) Find the nature of the roots.
 $12x^2 - 4\sqrt{15}x + 5 = 0$
- 5) If -5 is a root of quadratic equation $2x^2 + px - 15 = 0$ and the quadratic equation $p(x^2 + x) + K = 0$ has equal roots, Find the value of 'K'.
- 6) If the quadratic equation $(1 + m^2)x^2 + 2mcx + c^2 - a^2 = 0$ has equal roots, prove that $c^2 = a^2(1 + m^2)$.
- 7) Find the roots using quadratic formula.
 $x^2 - 4ax - b^2 + 4a^2 = 0$.
- 8) For what value of 'K' are the roots of quadratic equation $Kx(x - 2\sqrt{5}) + 10 = 0$ real and equal.
- 9) For what values of 'k' does the quadratic equation $4x^2 - 12x - k = 0$ have no real roots.
- 10) Find the values of 'K' for which the equation $2x^2 + Kx + 3 = 0$ has real and equal roots. Hence, find the roots of the equations so obtained.

(Section-B) → 5 marks each.

- 11) Find the roots of the equation using quadratic formula
 $12abx^2 - (9a^2 - 8b^2)x - 6ab = 0$ where, $a \neq 0$ and $b \neq 0$.
- 12) Express $x - \frac{1}{x} = 3$ as a quadratic equation in standard form and Hence find its roots. Also, find the value of 'a' for which the equation $x + \frac{1}{x} = a$, when expressed as quadratic equation, has real and equal roots.

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(CLASS - 08)
(01 to 10)

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