QB365 Student Learing Managemnet System
Exam Name: Quadratic Equations - Practise 1
Std: 10th Standard - Maths
Chapter: Quadratic Equations

Visit QB365-SLMS - https://www.qb365.in/slms/ Complete Questions and Answers

Questions:

5 Marks

1. Find the roots of the following quadratic equations by the factorisation.
$x^2 - 3x - 10 = 0$

2. Find the roots of the following quadratic equations, if they exist, by the method of completing the square $2x^2 + x + 4 = 0$

3 Marks

3. If α, β are roots of the equation $2x^2-6x+a=0$ and $2\alpha + 5\beta = 12$ find the value of a.

4. If difference of the roots of the equation $x^2-7x+2k=0$ is 1 then find the value of k.

5. In the following equations determine the set of values of p for which the given equation has real roots: $px^2+4x+1=0$

6. Find that non-zero value of k, for which the quadratic equation $kx^2 + 1 - 2(k-1)x + x^2 = 0$ has equal roots. Hence find the roots of the equation.

7. At t minutes past 2 p.m. the time needed by the minutes hand of a clock to show 3 p.m. was found to be 3 minutes less than $\frac{t^2}{4}$ minutes. Find t.

8. Find the roots of the quadratic equation: $3x^2 - 2\sqrt{6}\,x + 2 = 0$

9. Solve for x
$\frac{1}{(x-1)(x-2)} + \frac{1}{(x-2)(x-3)} = \frac{2}{3}; x \neq 1, 2, 3$

10. Find the roots of the following equation:
$x + \frac{1}{x} = 3, x \neq 0$

11. Find the nature of roots of the following quadratic equation. If the real roots exist, then also find the roots.
$7y^2 - 4y + 5 = 0$

Multiple Choice Question

12. Write the condition, when given quadratic equation has no real roots
(a) $b^2 - 4ac = 0$ (b) $b^2 - 4ac > 0$ (c) Either A or C (d) $b^2 - 4ac < 0$

13. If 1/2 is a root of the equation $x^2 + kx - 5/4 = 0$ then the other root of the quadratic equation is
(a) 1/4 (b) -5/2 (c) -2 (d) 1/2

14. If x = -2 is a root of equation $x^2 - 4x + K = 0$ then value of K is
(a) -8 (b) 8 (c) -12 (d) 12

15. If $ax^2 + bx + c$, $a \neq 0$ is factorizable into product of two linear factors, then roots of $ax^2 + bx + c = 0$ can be found by equating each factor to
(a) 1 (b) -1 (c) 2 (d) 0

16. If the equation $px^2 - 6x - 2 = 0$ has real roots then, _____
(a) $p \geq -9/2$ (b) $p > -9/2$ (c) $p < -9/2$ (d) $p \leq -9/2$

17. Which of the following is not a quadratic equation?
(a) $3x + 4 - 7x^2 = 0$ (b) $z^2 - 2z = 0$ (c) $5x + 3y^2 = 0$ (d) $5x^2 - 125 = 0$

18. The sum of areas of two squares is 468m2. If the difference of their perimeters is 24m, then the sides of the two squares are:
(a) 12m and 18m (b) 18m and 24m (c) 24m and 28 (d) 6m and 12m

19. The value(s) of k for which the quadratic equation $5x^2 - 9kx + 5 = 0$ has real and equal roots is/are
(a) $-\frac{10}{9}$ (b) $\pm\frac{9}{10}$ (c) $\frac{10}{9}$ (d) $\pm\frac{10}{9}$

QB365 Study Material QUESTION BANK 365