ICSE

ICSE - X

Topic: Quadratic Equations

1. If a and b are roots of the equation $x^2 + ax + b = 0$, then a + b =
   (a) a   (b) b   (c) -b   (d) -a

2. A quadratic equation whose one root is 2 and the sum of whose roots is zero, is
   (a) $x^2 + 4 = 0$ (b) $x^2 - 4 = 0$ (c) $4x^2 - 1 = 0$ (d) $x^2 - 2 = 0$

3. If one root of the equation $ax^2 + bx + c = 0$ is three times the other, then $b^2 : ac =$
   (a) 3 : 1   (b) 3 : 16   (c) 16 : 3   (d) 16 : 1

4. If one root of the equation $2x^2 + kx + 4 = 0$ is 2, then the other root is
   (a) 6   (b) - 6   (c) - 1   (d) 1

5. If one root of the equation $x^2 + ax + 3 = 0$ is 1, then its other root is
   (a) 3   (b) -3   (c) 2   (d) -2

6. If a and b are roots of the equation $x^2 + ax + b = 0$, then a . b =
   (a) a   (b) b   (c) -b   (d) -a

7. The values of k for which the quadratic equation $16x^2 + 4kx + 9 = 0$ has real and equal roots are

   (a) 6, $-\dfrac{1}{6}$ (b) 36, - 36   (c) 6, - 6   (d) $\dfrac{3}{4}, -\dfrac{3}{4}$

8. If the equation $x^2 + 4x + k = 0$ has real and distinct roots, then
   (a) $k < 4$ (b) $k > 4$ (c) $k \geq 4$ (d) $k \leq 4$

9. If the equation $x^2 - ax + 1 = 0$ has two distinct roots, then
   (a) $|a| = 2$ (b) $|a| < 2$ (c) $|a| > 2$ (d) None of these

10. If the equation $9x^2 + 6kx + 4 = o$ has equal roots, then the roots are both equal to

    (a) $\pm\dfrac{2}{3}$ (b) $\pm\dfrac{3}{2}$ (c) 0   (d) ± 3

11. If $ax^2 + bx + c = 0$ has equal roots, then c =

    (a) $\dfrac{-b}{2a}$ (b) $\dfrac{b}{2a}$ (c) $\dfrac{-b^2}{4a}$ (d) $\dfrac{b^2}{4a}$

12. If the equation $ax^2 + 2x + a = 0$ has two distinct roots, if
    (a) $a = \pm 1$ (b) $a = 0$ (c) $a = 0, 1$ (d) $a = -1, 0$

13. The positive value of k for which the equation $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ will both have real roots, is
    (a) 4   (b) 8   (c) 12   (d) 16

14. The value of $\sqrt{6 + \sqrt{6 + \sqrt{6 + }}}$ ... is
    (a) 4   (b) 3   (c) - 2   (d) 3.5

15. If 3 and -5 are the root of QE then it satisfy the ….

    (a) x^2-9 (b) x^2-25 (c) $x^2-2x-15$ (d) $x^2+2x-15$

16. Find the values of k if the roots of the given $x^2 - Ka + 625 = 0$ are equal.

    (a) 30   (b) 20   (c) 60   (d) 50

17. If sum of roots is 4 and product is also 4 find QE

    (a) $x^2-4x+4=0$ (b) $x^2+4x+4=0$ (c) $x^2-2x+4=0$ (d) $x^2-4x-4=0$

18. If one root of the quadratic equation $x^2 + 3x + k = 0$ is 2, then the value of k is

    (a) 10   **(b)** -10   **(c)** 5   **(d)** - 5

19. If the equation $kx^2 - 2kx + 6 = 0$ has equal roots, then find the value of k.

    (a) 4   (b) 6   (c) 8   (d) 10

20. Find the values of p^2 for which the quadratic equation $4x^2 + px + 3 = 0$ has equal roots.

    (a) 36   (b) 24   (c) 48   (d) 72

21. Find the nature of the roots of the quadratic equation : $13\sqrt{3}x^2 + 10x + \sqrt{3} = 0$

    (a) real   (b) real and equal

    (c) unreal   (d) rational

22. Determine the positive value of 'k' for which the equation $x^2 + kx + 64 = 0$ and

$x^2 - 8x + k = 0$ will both have real and equal roots

    (a) 20   (b) 16   (c) 32   (d) 8

23. $3x^2 - 4\sqrt{3}x + 4 = 0$ has _____ real solutions

    (a) 0   (b) 1   (c) 2   (d) 3

24. Sum of two number is 20 and their product is 96. Find the numbers

    (a) 15,5   (b) 6,14   (c) 16,6   (d) 12,8

25. If 8 is a member of m^2-1, $2m$ and m^2+1, find m

    (a) 15   (b) 4   (c) 8   (d) 19

1	D	2	B	3	C	4	D	5	A
6	B	7	C	8	A	9	C	10	A
11	D	12	A	13	D	14	B	15	c
16	D	17	A	18	B	19	B	20	C
21	C	22	A	23	C	24	D	25	B