5. QUADRATIC EQUATIONS

1. The sum of a number and its reciprocal is 50/7, then the number is ____
2. The roots of the equation $3x^2-2\sqrt{6}x+2 = 0$ are ____
3. If $x^2-2x+1 = 0$, then $x + 1/x =$ ____
4. If 3 is a solution of $3x^2+(k-1)x+9=0$, then k = ____
5. The roots of $x^2-2x-(r^2-1)= 0$ are ____
6. The sum of the roots of the equation $3x^2-7x+11= 0$ is ____
7. The roots of the equation $\frac{x^2-8}{x^2+20}=\frac{1}{2}$ are____
8. The roots of the quadratic equation $\frac{9}{x^2-27}=\frac{25}{x^2-11}$ are ____
9. The roots of the equation $\sqrt{2x^2+9}=9$ are ____
10. The two roots of a quadratic equation are 2 and –1. The equation is ____
11. If the sum of a quadratic equation $3x^2 + (2k+1)x-(k+5) = 0$, is equal to the product of the roots, then the value of k is ____
12. The value of k for which 3 is a root of the equation $kx^2-7x+3 = 0$ is ____
13. If the difference of the roots of the quadratic equation x^2-ax+b is 1, then ____
14. The quadratic equation whose one root is $2-\sqrt{3}$ is ____
15. ____ is the condition that one root of the quadratic equation ax^2+bx+c is reciprocal of the other.
16. The roots of the quadratic equation x/p = p/x are ____
17. If the roots of the equation $12x^2+mx+5= 0$ are real and equal then m is equal to ____
18. If the equation x^2-4x+a has no real roots, then ____

19. The discrimination of the quadratic equation $7\sqrt{3}x^2+10x-\sqrt{3}=0$ is ____

20. The value of $\sqrt{6+\sqrt{6+\sqrt{6+}}.....}$ is ____

21. Standard form of a quadratic equation is ____
22. The sum of a number and its reciprocal is 5/2. This is represented as ____
23. "The sum of the squares of two consecutive natural numbers is 25", is represented as ____
24. If one root of a quadratic equation is $7-\sqrt{3}$ then the other root is ____
25. The discriminant of $5x^2-3x-2 = 0$ is ____
26. The roots of the quadratic equation $x^2-5x+6 = 0$ are ____
27. If x = 1 is a common root of the equations $ax^2+ax+3 = 0$ and $x^2+x+b = 0$ then the value of ab is ____
28. If the discriminant of the quadratic equation $ax^2+bx+c = 0$ is zero, then the roots of the equation are ____
29. The product of the roots of the quadratic equation $\sqrt{2}x^2-3x+5\sqrt{2}=0$ is ____
30. The nature of the roots of a quadratic equation $4x^2-12x+9 = 0$ is ____
31. If the equation $x^2-bx+1 = 0$ does not possess real roots, then ____
32. If the sum of the roots of the equation $x^2-(k+6)x+2(2k-1) = 0$ is equal to half of their product, then k = ____
33. If one root of the equation $4x^2-2x+(\lambda-4) = 0$ be the reciprocal of the other, then λ = ____
34. If $\sin\alpha$ and $\cos\alpha$ are the roots of the equation $ax^2+bx+c = 0$, then b^2 = ____
35. If the roots of the equation $(a^2+b^2)x^2-2b(a+c)x+(b^2+c^2) = 0$ are equal, then b^2 = ____
36. The quadratic equation whose roots are –3, –4 is ____

37. If $b^2-4ac<0$ then the roots of quadratic equation $ax^2+bx+c = 0$ are ____

ANSWERS

1) 1/7; 2) $\sqrt{2}/3, \sqrt{2}/3$; 3) 2; 4) –11;
5) 1–r, r +1; 6) 7/3; 7) ±6; 8) ±6; 9) x = ±6; 10) $x^2-x-2 = 0$; 11) 4; 12) 2;
13) $a^2-4b = 1$; 14) $x^2-4x+1 = 0$; 15) a = c; 16) ±p; 17) $4\sqrt{15}$;
18) a>4; 19) 184;
20) 3; 21) $ax^2+bx+c = 0, a \neq 0$; 22) $(x+1/x = 5/2)$; 23) $x^2+(x-1)^2 = 25$; 24) $7+\sqrt{3}$; 25) 49; 26) 2, 3; 27) 3; 28) real and equal; 29) 5;
30) real and equal; 31) $b^2-4<0$ (or) $b^2<4$ (or) $-2<b<2$; 32) 7; 33) 8;
34) a^2+2ac; 35) ac; 36) $x^2+7x+12 = 0$;
37) Not real or imaginary.