DPP NO. 04

TOPIC : QUADRATIC EQUATION

1. The sum of the reciprocals of the roots of the equation $x^2 + px + q = 0$ is

(A) p/q. (B) -p/q. (C) q/p. (D) -q/p.

2. The roots of the equation $3x^2 – 4x + 3 = 0$ are –

(A) real and unequal (B) real and equal (C) imaginary (D) none of these

3. For the quadratic equation $x^2 – 2x + 1 = 0$, the value of $x + \frac{1}{x}$ is –

(A) –1 (B) 1 (C) 2 (D) –2

4. If one root of the equation $px^2 –14x + 8 = 0$ is six times the other, then p is equal to -

(A) 2 (B) 3 (C) 1 (D) None of these

5. The roots of $x^2 –2x – (r^2 – 1) = 0$ are :

(A)1 – r, r – 1 (B) 1 –r, r +1 (C) 1, r (D) 1 – r, r

6. Which of the following equations has the sum of its roots as 3?

(A) $x^2 + 3x –5 = 0$ (B) $– x^2 + 3x + 3 = 0$ (C) $2x^2 – \frac{3}{2}x –1 = 0$ (D) $3x^2 –3x –3 = 0$

7. If the sum and product of the roots of the quadratic equation $ax^2 –5x + c = 0$ are each equal to 10, then the values of a and c are

(A) $\frac{1}{2}$ and –5 (B) $\frac{1}{2}$ and 5 (C) 5 and $\frac{3}{2}$ (D) $\frac{3}{2}$ and 5

8. Which of the following equations has two distinct real roots?

(A) $x^2 + 3x + 2\sqrt{2} = 0$ (B) $x^2 + x – 5 = 0$

(C) $2x^2 –3\sqrt{2}x + \frac{9}{4} = 0$ (D) $5x^2 –3x + 1 = 0$

9. Which constant must be added and subtracted to solve the quadratic equation $9x^2 + \frac{3}{4}x – \sqrt{2} = 0$ by the method of completing the square ?

(A) $\frac{1}{8}$ (B) $\frac{1}{64}$ (C) $\frac{1}{4}$ (D) $\frac{9}{64}$

10. The quadratic equation whose one of the roots is $(3 – \sqrt{5})$, is

(A) $x^2 – 6x + 4 = 0$ (B) $3x^2 + 5x + 2 = 0$ (C) $x^2 – 2x + 7 = 0$ (D) $2x^2 + 3x + 5 = 0$

11. The numerator of a fraction is 2 less than the denominator. If the sum of a fraction and its reciprocal is $2\frac{4}{63}$. Find the fraction –

12. Two water taps together can fill a tank in $9\frac{3}{8}$ hours. The tap of larger diameter takes 10 hours less than the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank.

13. Sum of the areas of two squares is 468 m^2. If the difference of their perimeters is 24 m, find the sides of the two squares.

14. Using the quadratic formula, solve $a^2b^2x^2 – (4b^4 – 3a^4)x – 12a^2b^2 = 0$.

15. If x = 2 & x = 3 are the roots of the equation $3x^2 – 2mx + 2n = 0$ then find the value of m & n

Answers Key

DPP NO. 4

TOPIC : QUADRATIC EQUATION

1.	B	**2.**	C	**3.**	C	**4.**	B	**5.**	B	**6.**	B	**7.**	B
8.	B	**9.**	B	**10.**	A	**11.**	$\frac{7}{9}$	**12.**	25 hr. , 15 hr.	**13.**	12 m, 18 m		
14.	$\frac{4b^2}{a^2}, \frac{-3a^2}{b^2}$	**15.**	$m = \frac{15}{2}$, n = 9										