10 Class Math Tuition Assignment

Assignment – 4

Assigned To = All 10 Class Student

Note: All Questions are compulsory to attempt

Chapter = QUADRATIC EQUATIONS

Submission Date = See on portal **MM = 30**

Q1. **If -5 is a root of the 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.**

Q2. Solve for x: $[1/(x + 1)] + [3/(5x + 1)] = 5/(x + 4)$; $x \neq -1, -⅕, -4$

Q3. **Find the value of p, for which one root of the quadratic equation $px^2 – 14x + 8 = 0$ is 6 times the other.**

Q4. **In a flight of 600 km, an aircraft was slowed due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. Find the original duration of the flight.**

Q5. Find the discriminant of the equation $3x^2 – 2x + 1/3 = 0$ and hence find the nature of its roots. Find them, if they are real.

Q6. Find the values of k for each of the following quadratic equations, so that they have two equal roots.
(i) $2x^2 + kx + 3 = 0$
(ii) $kx (x – 2) + 6 = 0$

Q7. The 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.

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Q8. Solve the quadratic equation $2x^2 - 7x + 3 = 0$ by using quadratic formula.

Q9. The diagonal of a rectangular field is 60 metres more than the shorter side. If the longer side is 30 metres more than the shorter side, find the sides of the field.

Q10. Find two consecutive positive integers, the sum of whose squares is 365.