

Class 10 Maths Class Test

Chapters Covered – Polynomials, Linear equations in 2 variables, Quadratic Equations

MM: 30

TT: 1 Hour

1 mark questions

- If one of the zeroes of a quadratic polynomial $(k-1)x^2 + kx + 1$ is -3 , then the value of k is
 - $\frac{4}{3}$
 - $-\frac{4}{3}$
 - $\frac{2}{3}$
 - $-\frac{2}{3}$
- If α, β are the zeroes of a polynomial $p(x) = x^2 + x - 1$, then $\frac{1}{\alpha} + \frac{1}{\beta}$ equals to
 - 1
 - 2
 - 1
 - $\frac{-1}{2}$
- If α, β are the zeroes of $f(x) = 2x^2 + 6x - 6$, then
 - $\alpha + \beta = \alpha\beta$
 - $\alpha + \beta > \alpha\beta$
 - $\alpha + \beta < \alpha\beta$
 - $\alpha + \beta + \alpha\beta = 0$
- If the system of equations $3x + y = 1$ and $(2k-1)x + (k-1)y = 2k+1$ is inconsistent, then $k =$
 - 1
 - 0
 - 1
 - 2

2 marks questions

- The larger of two supplementary angles exceeds the smaller by 18° . Find the angles.

6. Find the value of k if the equation $(k-1)x^2 - 2kx + 4 = 0$ has real and equal roots.
7. Find k so that the following pair of linear equations has no solution.

$$3x + y = 1$$

$$(2k-1)x + (k-1)y = 2k+1.$$

3 marks questions

8. If product of the zeroes of the polynomial $kx^2 + 41x + 42$ is 7, then find the zeroes of the polynomial $(k-4)x^2 + (k+1)x + 5$.
9. If α and β are the zeroes of the quadratic polynomial $p(s) = 3s^2 - 6s + 4$, then find the value of
$$\left[\frac{\alpha}{\beta} + \frac{\beta}{\alpha} + 2\left(\frac{1}{\alpha} + \frac{1}{\beta}\right) + 3\alpha\beta \right]$$
10. A two-digit number is obtained by either multiplying the sum of the digits by 8 and then subtracting 5 or by multiplying the difference of the digits by 16 and then adding 3. Find the number.

4 marks questions

11. Solve the following pair of linear equations graphically $6x - y + 4 = 0$ and $2x - 5y = 8$. Shade the region bounded by the lines and y -axis.
12. The present age of a father is three years more than three times the age of his son. Three years hence the father's age will be 10 years more than twice the age of the son. Determine their present ages.
13. A train travels at a certain average speed for a distance of 63 km and then travels a distance of 72 km at an average speed of 6 km/h more than its original speed. If it takes 3 hours to complete the total journey, what is its original average speed?