
CBSE TEST PAPER-04

MATHEMATICS (Class-10)

Chapter 4 : Quadratic Equations

1. Find the roots of $x^2 + 4x + 5 = 0$ (3 Marks)
2. Find the value of k for $4x^2 - 2(k + 1)x + (k + 4) = 0$, so that it has two equal roots. (3 Marks)
3. Find the value of k for $x^2 - 2(k + 10x + k^2) = 0$, so that it has two equal roots. (3 Marks)
4. If -4 is a root of the quadratic equation $x^2 + px - 4 = 0$ and the quadratic equation $x^2 + px + k = 0$ has equal roots, find the value of k . (3 Marks)
5. Find the discriminant of the quadratic equation $2x^2 - 4x + 3 = 0$, and hence find the nature of its roots. (3 Marks)
6. The sum of the reciprocals of Rehman's ages, (in years) 3 years ago and 5 years from now is $\frac{1}{3}$. Find his present age. (6 Marks)
7. A cottage industry produces a certain number of pottery articles in a day. It was observed on a particular day that the cost of production of each article (in rupees) was 3 more than twice the number of articles produced on that day. If the total cost of production on that day was Rs 90, find the number of articles produced and the cost of each article. (6 Marks)
8. A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 1 hour less for the same journey. Find the speed of the train. (6 Marks)
9. 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. (6 Marks)