

Chapter-Quadratic Equations

Question bank

Q1.

Solve for x : $\frac{1}{a+b+x} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x}$

Q2.

Solve for x : $4x^2 + 4bx - (a^2 - b^2) = 0$

Q3.

Solve, for x : $\sqrt{3}x^2 + 10x + 7\sqrt{3} = 0$

Q4.

1. If the roots of the quadratic equation $(a-b)x^2 + (b-c)x + (c-a) = 0$ are equal, prove that $2a = b + c$.

Q5.

If -3 is a root of quadratic equation $2x^2 + px - 15 = 0$, while the quadratic equation $x^2 - 4px + k = 0$ has equal roots. Find the value of k .

Q6.

1. Solve the following quadratic equation for x :

$$9x^2 - 9(a+b)x + 2a^2 + 5ab + 2b^2 = 0$$

Q7.

The difference of squares of two numbers is 88. If the larger number is 5 less than twice the smaller number, then find the two numbers.

Q8.

A motor boat whose speed is 20 km/h in still water, takes 1 hour more to go 48 km upstream than to return downstream to the same spot. Find the speed of the stream.

Q9.

Find the value of m so that the quadratic equation $mx(x - 7) + 49 = 0$ has two equal roots.

Q10.

Some students planned a picnic. The total budget for food was rs 2,000. But 5 students failed to attend the picnic and thus the cost of food for each member increased by rs 20. How many students attended the picnic and how much did each student pay for the food.

Solution :