

Solving quadratic equations

Using a simple algorithm

General form of quadratic equations

$$ax^2 + bx + c = 0$$

Step 1

Take the coefficients of a , b and c as input.

Step 2

Calculate the discriminant using the formula

$$D = b^2 - 4ac.$$

Step 3

Check the discriminant value for positive, negative or zero value.

Step 5

If the discriminant is negative, the quadratic equation has no real roots, hence cannot be solved.

Step 6

If the discriminant is zero, the quadratic equation has one real root, hence can be solved.

Step 7

If the discriminant is positive, the quadratic equation has two real roots, hence can be solved.

Conclusion

The simple algorithm presented offers a systematic approach to finding the roots of a quadratic equation in mathematics.