The Practise Ground

Class 10-11 Maths

Quadratic Equations

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

1

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

Standard form

$a \neq 0$; solve for x

2

$$x = (-b \pm \sqrt{D}) / 2a$$

Quadratic formula

where $D = b^2 - 4ac$

3

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

Discriminant

$D > 0$: two real roots | $D = 0$: one repeated root | $D < 0$: no real roots

4

$$\alpha + \beta = -b/a \qquad \alpha\beta = c/a$$

Sum and product of roots

A quick way to check your answers

a	b	c	D	x
coefficient of x^2	**coefficient of x**	**constant term**	**discriminant**	**root**
$a \neq 0$			$b^2 - 4ac$	solution

Method

Try factorising first. Use the formula when it will not factorise.

Find D first: it tells you what kind of roots to expect.

Quick example

$x^2 - 5x + 6 = 0$

$D = 25 - 24 = 1$

$x = (5 \pm 1) / 2 = 3$ or 2

Think you've got it? Test yourself.

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