

CLASS 10

MATHS

REVISION NOTES

Revision Notes: Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables

A fast, one-glance recap of Class 10 Maths Chapter 3 (Pair of Linear Equations in Two Variables) -- for the full worked explanations, see the Solutions.

Contents

Why This Chapter Matters

Revision Notes: Pair of Linear Equations in Two Variables

How to Use These Notes

A fast, one-glance recap of Class 10 Maths Chapter 3 (Pair of Linear Equations in Two Variables) — for the full worked explanations, see the [Solutions](#).

Why This Chapter Matters

Pair of Linear Equations in Two Variables is one of the standard chapters in the CBSE/NCERT Class 10 Maths syllabus and questions from it appear regularly in board exams, in formats ranging from 1-mark objective questions to longer 3-5 mark descriptive or numerical questions. Because the concepts here often build on earlier chapters (and feed into later ones), a solid grip on this chapter also makes the rest of the Maths syllabus easier to follow.

Revision Notes: Pair of Linear Equations in Two Variables

Linear equation in two variables: $ax + by + c = 0$ (a, b not both zero)

Pair of linear equations: $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$

Graphical meaning: two lines can be intersecting, parallel, or coincident

Ratio test: $a_1/a_2 \neq b_1/b_2 \rightarrow$ intersecting, consistent, unique solution

$a_1/a_2 = b_1/b_2 \neq c_1/c_2 \rightarrow$ parallel, **inconsistent**, no solution

$a_1/a_2 = b_1/b_2 = c_1/c_2 \rightarrow$ coincident, consistent, infinitely many solutions

Algebraic methods: substitution (express one variable in terms of the other and substitute) and elimination (make one variable's coefficient equal in both equations, then add/subtract)

Word problems: define both variables clearly first, form two equations from the given conditions, solve, then sanity-check the answer fits the context (ages, speeds, costs must be positive)

Reciprocal substitution trick: for speed/time problems with terms like $1/(x-y)$ and $1/(x+y)$, substitute $u = 1/(x-y)$, $v = 1/(x+y)$ to reduce to a simple linear pair

Know by heart: the ratio-test table above is a near-guaranteed 1-2 mark question every year

See also: [Extra Questions \(HOTS\)](#) / [Formulas Handbook](#)

How to Use These Notes

These revision notes are meant for quick recall in the last few days before an exam or unit test — they are not a substitute for first reading the full chapter and working through examples in the NCERT textbook. A good routine is: read the chapter once, solve the in-text and end-of-chapter questions using the linked Solutions, then come back to this page a day or two before the exam to refresh the key definitions and formulas without re-reading the whole chapter.