CLASS 10 • MATHS REVISION • 2026–27

Coordinate Geometry

Sketch the points first to catch sign errors. A distance is never negative. The section formula here describes internal division of a line segment.

Formulas and methods

Distance AB = $\sqrt{[(x_2 - x_1)^2 + (y_2 - y_1)^2]}$. This follows from Pythagoras applied to the horizontal and vertical differences.

If AP:PB = m:n, P = $((mx_2 + nx_1)/(m+n), (my_2 + ny_1)/(m+n))$, with m,n positive.

Midpoint = $((x_1 + x_2)/2, (y_1 + y_2)/2)$, the special case m = n.

Worked examples

Find the distance between A(−2,3) and B(4,11).

Changes are 4 − (−2) = 6 and 11 − 3 = 8. Distance = √(36 + 64) = 10 units.

Find the point dividing A(1,2) and B(7,8) internally in the ratio 1:2.

AP:PB = 1:2. P = ((1×7 + 2×1)/3, (1×8 + 2×2)/3) = (3,4). It is closer to A, as the ratio predicts.

Common mistake

In the section formula, m multiplies the coordinates of B. Keep brackets around negative coordinates when subtracting.

Coordinate Geometry — practice

Try these without looking at the answers. Show substitutions and units. Difficulty labels describe these questions, not official CBSE classifications.

1. [Foundation] Find the midpoint of $(-4,2)$ and $(6,8)$.

2. [Core] Find the distance from $(0,0)$ to $(-5,12)$.

3. [Core] Divide $(2,-1)$ and $(8,5)$ internally in ratio 2:1.

4. [Challenge] A point on the x-axis is equidistant from $(2,3)$ and $(6,5)$. Find it.

Coordinate Geometry — answers

1. Find the midpoint of (−4,2) and (6,8).

((−4+6)/2,(2+8)/2) = (1,5).

2. Find the distance from (0,0) to (−5,12).

√(25+144) = 13 units.

3. Divide (2,−1) and (8,5) internally in ratio 2:1.

((2×8+2)/3,(2×5−1)/3) = (6,3).

4. A point on the x-axis is equidistant from (2,3) and (6,5). Find it.

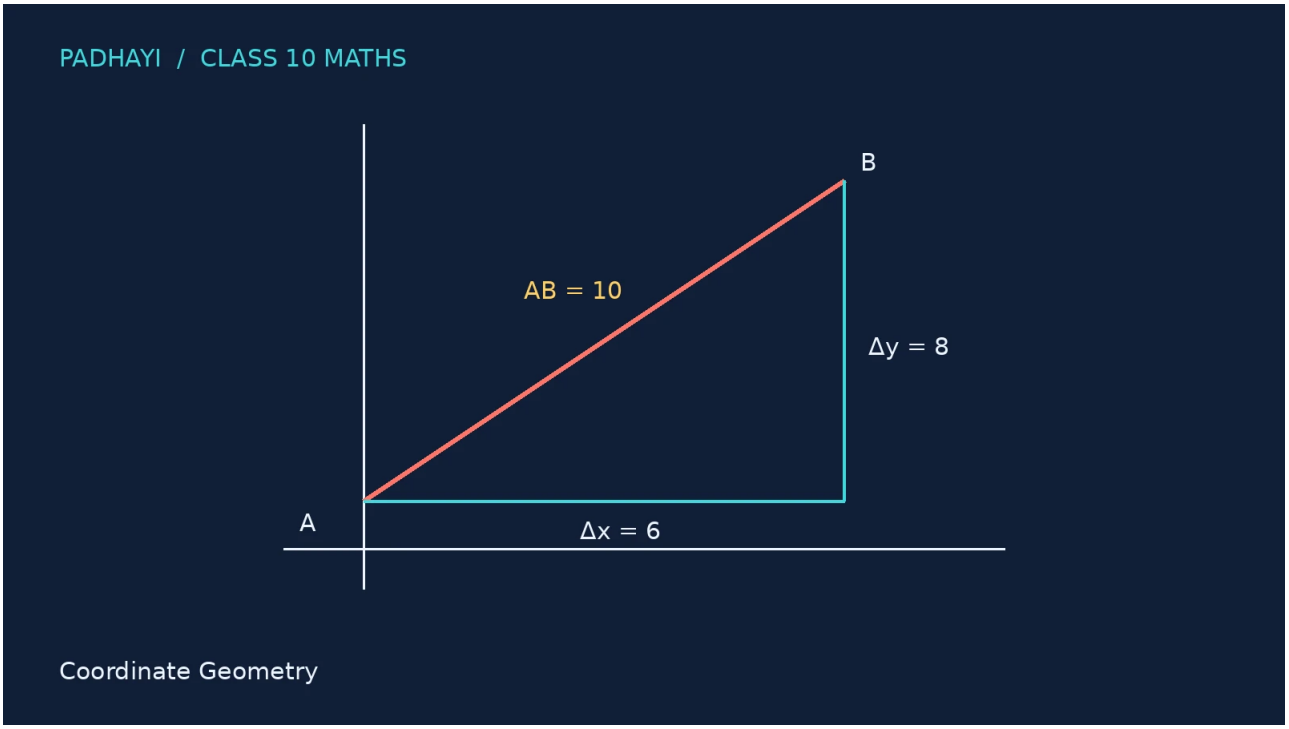
Let it be (x,0). $(x-2)^2+9 = (x-6)^2+25$. Simplifying gives 8x = 48; point (6,0).

Next step: explain one method aloud, then solve a question from your NCERT textbook without using this sheet.

Original Padhayi revision material. Independent study aid; not an official CBSE or NCERT publication. Syllabus reference: CBSE Mathematics, Class X, 2026–27.

Official CBSE syllabus | NCERT textbooks

Visual reminder



Schematic illustration; diagrams are not necessarily drawn to scale.