

Analysing Your Sample Paper Mistakes

Six mistake types, one specific fix for each — and the CBSE and NCERT numbers that decide which to fix first.

Wrong answer → **name the type** → apply that type's fix → a stronger next paper

Why analysing beats solving more

Two students each solve ten sample papers. One checks the score and moves on. The other spends twenty minutes finding out **why** every mark was lost. Same effort, very different outcome — because solving a paper tells you your **score**, while analysing it tells you your **reasons**, and only reasons can be acted on.

"Careless" is not one of the six types below, and that is deliberate. It feels like a diagnosis, but "be more careful" is not something anyone can practise. Split every careless-feeling mistake into **Calculation**, **Question Reading** or **Presentation** and each one becomes a habit you can drill.

The six mistake types

Type	It sounds like	The fix
Concept	"I didn't know how to start."	Relearn that NCERT chapter from the basics
Method	"I used the wrong approach."	Solve several similar questions back to back
Calculation	"Right until one slip."	Build a slow, deliberate final-check habit
Question Reading	"I solved a different question."	Underline the data and what is asked, first
Time Management	"I ran out of time."	Practise full papers under a strict clock
Presentation	"Hard to follow."	Show complete, ordered working every time

The CBSE and NCERT numbers behind your tally

NCERT sets the scope. Every CBSE sample paper is set on the rationalised NCERT syllabus — **7 units, 14 chapters**, with Constructions no longer in the course. So a Concept mistake always traces back to a named chapter, and the fix is that chapter's own exercises, not a new book.

CBSE sets the shape and the clock. 80 marks of theory in 3 hours plus 20 internal; **38 questions** in five sections — A 20×1 , B 5×2 , C 6×3 , D 4×5 , E 3×4 — with no overall choice. That makes 180 minutes for 80 marks, or **2.25 minutes per mark**: a 5-mark question left blank was an 11-minute decision, not bad luck.

Marks are assigned by unit, not by chapter. Number Systems 6, Algebra 20, Coordinate Geometry 6, Geometry 15, Trigonometry 12, Mensuration 10, Statistics & Probability 11 — 80 in total. So log two columns, **type** and **unit**, and rank by the marks sitting behind each pile.

Three things students say — and what each one really is

What you tell yourself	What it usually is	What you do about it
"Silly mistake."	Calculation, or Reading	Two different drills, not one
"I'm bad at Maths."	One or two chapters	Redo those NCERT exercises
"I ran out of time."	A Concept gap earlier	Check the 90-minute mark

Key takeaways

- ▶ Every mistake is **information**. A wrong answer is not a verdict, it is a pointer.
- ▶ Six types, six different fixes. Solving more papers repairs **none** of them directly.
- ▶ The biggest mark-drain is usually **not** Concept — it is Calculation, Question Reading and Presentation, which are habits and change fast.
- ▶ Count **patterns, not mistakes**. A falling error count can hide the same unchanged weakness.
- ▶ CBSE awards **method and step marks**, which is exactly why Presentation is a real type and not fussiness.
- ▶ Weight your tally by **unit marks**: the same pile is worth more in a 20-mark unit than a 6-mark one.

From 63/80 to a Ranked Plan

A real analysis run: log every lost mark, tally it two ways, then fix the one question that proves the point.

STEP 1 · THE MISTAKE LOG

Riya scores **63/80**. She lists all **17 lost marks**, one row each — never a bare tick or cross.

Q	Section	Topic	Lost	Type	Root cause
Q4	A (1)	Real Numbers	1	Question Reading	Gave the LCM; the HCF was asked
Q21	B (2)	Trigonometry	2	Concept	Could not recall $\sin^2\theta + \cos^2\theta = 1$
Q26	C (3)	Quadratic Equations	2	Presentation	Correct ages, no equation or working shown
Q30	C (3)	Arithmetic Progressions	3	Calculation	Sign slip in $(n - 1)d$
Q33	D (5)	Applications of Trigonometry	5	Time Management	Left blank — ran out of time
Q35	D (5)	Surface Areas and Volumes	4	Method	Counted the glued face into the total surface area

STEP 2 · TALLY IT TWO WAYS

By type	By unit (and what that unit is worth)
Time Management 5 · Method 4 · Calculation 3 · Presentation 2 · Concept 2 · Question Reading 1	Trigonometry 7 (unit is 12 marks) · Algebra 5 (20) · Mensuration 4 (10) · Number Systems 1 (6)

Read by type alone, the answer looks like “work on timing”. Read by unit, **7 of 17 lost marks are Trigonometry** — and the 5-mark blank was a Trigonometry question, left last because it felt hard. The timing problem is a symptom; the unit is the cause. **Priority: Trigonometry first, presentation habits alongside.**

STEP 3 · Q26 REWORKED — THE SAME ANSWER, 1/3 AND 3/3

The question (3 marks). The sum of the ages of a father and his son is 45 years. Five years ago, the product of their ages was 124. Find their present ages.

What Riya wrote — 1 of 3. “Father 36, son 9.” The answer is right, but CBSE pays for the **method**: no variable named, no equation formed, no root rejected. Two method marks are simply not on the page to award.

What scores 3 of 3.

Let the son's present age be x years, so the father's is $(45 - x)$ years.

Five years ago: $(x - 5)(40 - x) = 124$

$\Rightarrow 45x - x^2 - 200 = 124 \Rightarrow x^2 - 45x + 324 = 0$

$\Rightarrow (x - 9)(x - 36) = 0 \Rightarrow x = 9$ or $x = 36$

$x = 36$ is rejected — the father would then be 9. **Son 9 years, father 36 years.**

Check: $36 + 9 = 45$ ✓ and $31 \times 4 = 124$ ✓

Same answer, same student, same three minutes. The two extra marks came from writing the reasoning down — which is what “Presentation” means on a mistake log.

NOW TRY THIS ONE

The sum of two numbers is 15 and the sum of their reciprocals is $3/10$. Find the numbers. Write it out in full — variable, equation, both roots, conclusion, check — then tag any mark you would have lost. (Answer: 5 and 10, since $1/5 + 1/10 = 3/10$.)

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