

How to Analyse Previous Year Questions

Concepts repeat, not questions. This sheet is the method for finding which ones – and the official CBSE and NCERT numbers to check your findings against.

Recurrence (what your own PYQ pile shows) × Weightage (official CBSE unit marks) = your priority

What you are actually hunting

A question is the **surface** – the story, the numbers, the wording. The concept is what sits **underneath**. The exact question almost never repeats; the concept beneath it does, wearing a new story each year.

“Height of a tower?” · “Height of a tree?” · “Height of a kite?” → one concept: trigonometry, heights and distances. Different stories, same maths.

The four-step method

- 1 Collect by chapter.** Several years of papers, regrouped by chapter or topic rather than by year. Papers are organised by section; your analysis needs them organised by concept.
- 2 Strip the wording.** For each question ask what maths is being tested, and why the board chose to test it. Label the question with that concept and ignore the story.
- 3 Spot what recurs.** Which concepts appear most often, how each is reframed, and where each one usually trips students up. Record the mark value it normally carries.
- 4 Turn patterns into priorities.** Combine your recurrence count with the official unit marks using the grid below.

The priority grid

Recurrence	Weightage	What it means for you
High	High	Deepest focus – the highest return on your study hours
High	Low	Worth solid practice – cheap marks you can secure
Low	High	Do not neglect – the marks are there whether it recurs or not
Low	Low	Cover it, but do not over-invest

The official numbers to check your analysis against

NCERT sets the scope. Fourteen chapters across seven units; Constructions is no longer part of the rationalised syllabus, so a concept that recurs in older papers may simply have been removed.

CBSE sets the shape. Theory 80 marks + internal assessment 20 = 100. The paper is **38 questions in five sections**: A = 18 MCQ + 2 assertion-reason (1 mark each), B = 5×2 , C = 6×3 , D = 4×5 , E = 3 case studies $\times 4$.

CBSE sets the priority – per unit, not per chapter. Number Systems 6 · Algebra 20 · Coordinate Geometry 6 · Geometry 15 · Trigonometry 12 · Mensuration 10 · Statistics & Probability 11 = **80**. Chapter-wise percentage tables and pie charts circulating online are unofficial estimates, not board figures.

Key takeaways

- Hunt **concepts**, not questions – the story is the disguise, the concept is the pattern.
- Regroup several years of questions **by chapter** before you look for anything.
- Record each recurring concept with the **mark value** it usually carries, not just its name.
- Recurrence alone is not a plan. Cross it with the **official unit marks** – that pairing is the priority.
- CBSE publishes marks **per unit**. Treat any chapter-wise percentage chart as somebody's rough count.
- Patterns **guide** focus; they never **predict** the paper. Prepare the full syllabus, go deepest where the data points.

The method, run start to finish

Six board-style questions across several years — stripped, tallied, ranked, then the top concept worked in full. Stems are representative, not quoted from any one year.

STEPS 1 & 2 — COLLECT, THEN STRIP THE WORDING

The question as it appears	The concept underneath
The sum of the squares of two consecutive odd positive integers is 394.	Quadratic equation from a word problem
A train covers 360 km. At 5 km/h more it would take 1 hour less. Find the speed.	Quadratic equation from a word problem
A plot of area 528 m ² has length one more than twice its breadth. Find its dimensions.	Quadratic equation from a word problem
A tower casts a 30 m shadow when the sun's altitude is 30°. Find its height.	Heights and distances
From the top of a 75 m tower a car is seen at a depression of 30°. Find its distance.	Heights and distances
Find the area of a sector of a circle of radius 7 cm with central angle 60°.	Areas related to circles

Three different stories — integers, a train, a plot of land — collapse to **one** concept. That collapse is the whole skill.

STEPS 3 & 4 — TALLY, THEN RANK AGAINST OFFICIAL MARKS

Concept	Seen	Unit	Unit marks	Priority
Quadratic equation from a word problem	3	Algebra	20	Deepest focus
Heights and distances	2	Trigonometry	12	Solid practice
Areas related to circles	1	Mensuration	10	Do not neglect

High recurrence **and** the largest unit on the paper — word-problem quadratics are where this pile says to go deepest. Note what the tally did **not** do: invent a chapter-wise percentage. It counted, then borrowed the official unit marks.

THE TOP CONCEPT, WORKED IN FULL

The sum of the squares of two consecutive odd positive integers is 394. Find the integers.

Step 1 — name the unknown. Let the smaller odd integer be x ; the next odd integer is $x + 2$.

Step 2 — translate into an equation. $x^2 + (x + 2)^2 = 394$

Step 3 — reduce to standard form. $2x^2 + 4x + 4 = 394 \Rightarrow 2x^2 + 4x - 390 = 0 \Rightarrow x^2 + 2x - 195 = 0$

Step 4 — solve. $195 = 15 \times 13$, and $15 - 13 = 2$, so $(x + 15)(x - 13) = 0 \Rightarrow x = -15$ or $x = 13$.

Step 5 — reject and answer. The integers are positive, so $x = 13$. The integers are **13 and 15**.

Check: $13^2 + 15^2 = 169 + 225 = 394 \checkmark$

Same moves, other two stories. **Train:** $360/x - 360/(x + 5) = 1 \Rightarrow x^2 + 5x - 1800 = 0 \Rightarrow (x + 45)(x - 40) = 0 \Rightarrow \mathbf{40 \text{ km/h}}$ (9 h and 8 h differ by 1). **Plot:** $b(2b + 1) = 528 \Rightarrow 2b^2 + b - 528 = 0$, discriminant $4225 = 65^2 \Rightarrow b = 16$, length 33 $\Rightarrow \mathbf{16 \text{ m} \times 33 \text{ m}}$ ($16 \times 33 = 528$).

NOW TRY THIS ONE

The sum of the reciprocals of Rehan's age 3 years ago and his age 5 years from now is $1/3$. Find his present age. (*Strip it first: which concept is this?*)

Answer: $1/(x - 3) + 1/(x + 5) = 1/3 \Rightarrow x^2 - 4x - 21 = 0 \Rightarrow (x - 7)(x + 3) = 0 \Rightarrow \mathbf{7 \text{ years}}$. Check: $1/4 + 1/12 = 1/3 \checkmark$ — the fourth story, the same concept.

Stop hunting for patterns by hand

- **Start free with Chapter 1** — the full examfront method, no payment needed.
- **Mistake identification** — every recurring concept paired with the slip it causes in your work.
- **Anytime tests** — practise a concept the moment your analysis flags it.
- **Weekly tests** — spaced revisiting, so a concept you fixed stays fixed.
- **Mock tests before the exam** — the whole paper under real conditions, with the pattern read after.

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