

FREE ORIGINAL STARTER BOOKLET

Class 9 Mathematics Olympiad practice

For students exploring SOF IMO. Concept notes, worked examples, and six original questions with answers.

Independent BodhiScore material. Not produced, endorsed, or published by SOF. This is not an SOF workbook or an official paper.

How to use this booklet

Read one concept note, cover its worked example, and try the matching questions without looking at the answers. Then check the official syllabus for anything this short guide does not cover.

Syllabus map

Number systems and algebra; coordinates; geometry and measurement; data and chance; reasoning.

This is a broad revision map, not a transcription or a complete SOF syllabus. For the authoritative current topic list and exam pattern, use the official source linked at the end.

Four concepts to practise

Numbers and patterns

A rational number is a ratio of integers with a non-zero denominator. A square root such as $\sqrt{2}$ is irrational. When a pattern grows, write the difference between consecutive terms before guessing a rule.

Worked example: For 3, 8, 15, 24, ... the differences are 5, 7, 9. The next difference is 11, so the next term is 35.

Algebra and equations

An equation stays balanced when you perform the same operation on both sides. Expand identities carefully: $(a+b)^2$ equals $a^2+2ab+b^2$, not a^2+b^2 .

Worked example: If $4x-3=17$, first add 3 to get $4x=20$, then divide by 4: $x=5$.

Geometry and measurement

Use facts you can justify: angles on a straight line total 180 degrees, and the three interior angles of a triangle total 180 degrees. Draw and label the figure before calculating.

Worked example: A triangle with angles 45 and 65 degrees has third angle $180-45-65=70$ degrees.

Data and chance

For a short ordered list, the median is its middle value. Probability of an equally likely event is favourable outcomes divided by all outcomes.

Worked example: A bag holds 2 blue and 3 red counters. The chance of blue is $\frac{2}{5}$.

Your turn

Try each problem before checking the answer key on the next page.

1. Find x if $5x+4=29$.
2. Continue 1, 4, 9, 16, ...
3. Expand $(x+3)^2$.
4. A triangle has angles 38 and 72 degrees. Find the third.
5. Find the median of 4, 7, 9, 14, 20.
6. A fair die is rolled. Find $P(\text{number greater than 4})$.

Answers and next steps

1. $x=5$; subtract 4, then divide by 5.
2. 25; these are consecutive squares.
3. x^2+6x+9 ; include the middle term $2x \cdot 3$.
4. 70 degrees; subtract both from 180.
5. 9; the list is ordered and 9 is in the middle.
6. $\frac{1}{3}$; two favourable faces out of six.

What this does not cover

This short booklet is not a full textbook, full-length mock exam, or complete syllabus. SOF Level 1 also includes logical reasoning and an achievers section. Revisit your current and previous class concepts before an exam.

Official source

SOF IMO Class 9 syllabus

Prepared by BodhiScore. Reviewed October 2026. The linked SOF page is the final authority for changes.