

Class 12 Engineering Graphics Chapterwise PYQs

Isometric Projection of Solids | 2026-27 Board Revision

The local chapterwise PYQ source set has no extractable Engineering Graphics rows for this opening chapter. This PDF therefore uses NCERT-based board-style prompts around repeated drawing skills: isometric axes, isometric scale, enclosing boxes, prisms, pyramids, cylinders, cones, spheres and combinations of solids.

Section	Question Count	Marks
A: Objective Projection Checks	6	1 mark
B: Short Construction Questions	8	2 marks
C: Drawing Sequence Questions	6	3 marks
D: Board-Style Isometric Drawing	4	5 marks

Section A: Objective Projection Checks

Q. Which three directions are used to set the isometric axes?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. What is the purpose of using an isometric scale?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. Which method is commonly used to draw circles in isometric view?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. What is the first construction step before drawing a prism in isometric view?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. Why are hidden edges usually avoided in a finished isometric drawing?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. Which solid has an apex that must be projected from the centre of its base?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Section B: Short Construction Questions

Q. State two differences between isometric drawing and orthographic projection.

[Chapter 1 isometric projection revision pattern]

Q. Explain why an enclosing box is useful while drawing a solid in isometric view.

[Chapter 1 isometric projection revision pattern]

Q. Write the construction order for drawing an isometric cube of given side.

[Chapter 1 isometric projection revision pattern]

Q. How should an isometric ellipse be placed on a square face?

[Chapter 1 isometric projection revision pattern]

Q. Name two checks before darkening the final outline of an isometric prism.

[Chapter 1 isometric projection revision pattern]

Q. Why should all vertical heights be transferred from the same reference level?

[Chapter 1 isometric projection revision pattern]

Q. Mention two common mistakes students make while drawing isometric cylinders.

[Chapter 1 isometric projection revision pattern]

Q. What is the role of centre lines in composite solid questions?

[Chapter 1 isometric projection revision pattern]

Section C: Drawing Sequence Questions

Q. Describe the steps for drawing the isometric projection of a square prism resting on its base.

[CBSE-style drawing-sequence question]

Q. A hexagonal prism stands with its axis vertical. Write the order in which the base, height and top face should be constructed.

[CBSE-style drawing-sequence question]

Q. Explain how four-centre approximation helps in drawing an isometric circle on a visible face.

[CBSE-style drawing-sequence question]

Q. Compare the construction sequence for a cone and a cylinder in isometric projection.

[CBSE-style drawing-sequence question]

Q. How should a student draw the isometric view of a pyramid without shifting the apex away from the base centre?

[CBSE-style drawing-sequence question]

Q. Give a final checklist for a board answer on a combination of two solids placed on a common axis.

[CBSE-style drawing-sequence question]

Section D: Board-Style Isometric Drawing

Q. Draw the isometric projection of a cube of side 50 mm resting on one square face. Show the three visible faces clearly.

[Board-style long drawing practice]

Q. Draw the isometric projection of a square prism of base 40 mm and height 70 mm with its axis vertical.

[Board-style long drawing practice]

Q. Draw the isometric projection of a cylinder of diameter 50 mm and height 70 mm resting on its circular base.

[Board-style long drawing practice]

Q. Draw the isometric projection of a composite solid made of a square prism surmounted by a square pyramid on the same axis.

[Board-style long drawing practice]

Quick Revision Pointers

- Set the isometric axes first and keep the vertical axis truly vertical.
- Use an enclosing box for prisms, pyramids and composite solids before trimming details.
- Draw circles as isometric ellipses on the correct face, not as true circles.
- Darken only the final visible outline and keep construction lines light.