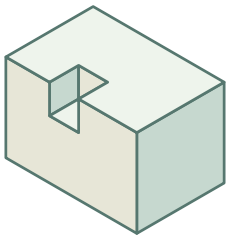
Orthographic Projection Method

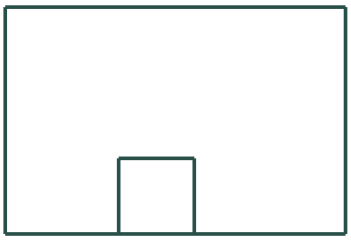
Answer | Task 1 of 4 | A4

Original prompt

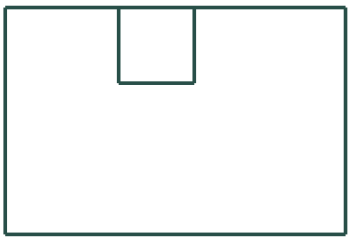
Task 1 — Draw the three orthographic views of a plain rectangular block with one square notch cut from its top front edge. Show the notch in the front and top views.



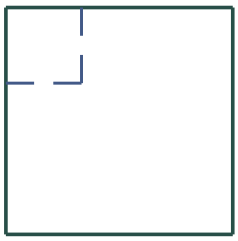
Square top-front notch



Top



Front



Right side

Answer

Front: square notch in the top edge. Top: the notch is open at the front edge with two short sides and a rear edge. Right: rectangular exterior outline with the two hidden notch edges dashed.

Reasoning

The notch opens to the front and upward. The right-hand wall covers the notch from the right, so its bottom and back project as hidden lines.

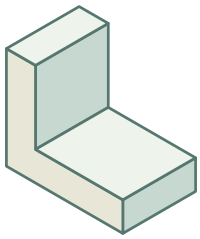
Check

Compare notch width in the front and top, height in the front and right, and depth in the top and right.

Orthographic Projection Method

Original prompt

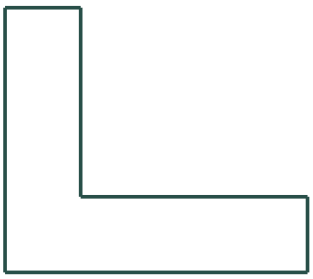
Task 2 — Draw the three views of an L-shaped bracket standing on its long leg, with the short leg pointing to the right. Show the L outline in the front view and the step in the top and side views.



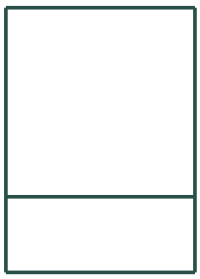
Left upright and base



Top



Front



Right side

Answer

Front view: L-shaped outline. Top view: rectangle with a line showing the step. Side view: rectangle with a horizontal line at the step height. Check: the step edge appears in all three views at consistent positions.

Reasoning

The L shape is visible from the front, so the front view shows the full L outline; the step's depth is projected into the top view and its height into the side view.

Check

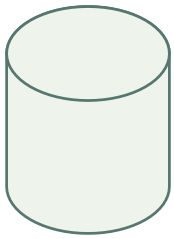
Trace the step edge and confirm it appears in the front, top and side views at matching positions.

Orthographic Projection Method

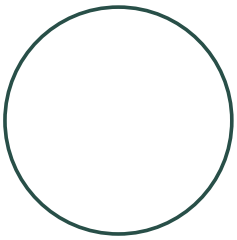
Answer I Task 3 of 4 I A4

Original prompt

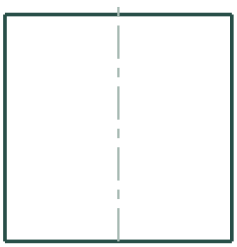
Task 3 — Draw the three views of a cylinder standing upright. The front and side views are rectangles; the top view is a circle. Show the centre line in the front and side views.



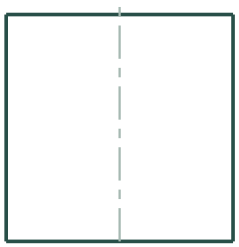
Upright cylinder



Top



Front



Right side

Answer

Front view: rectangle with a vertical centre line. Top view: circle. Side view: rectangle with a vertical centre line. Check: the circle's diameter matches the rectangle's width in both front and side views.

Reasoning

A cylinder's curved surface projects as a rectangle in the front and side views and as a circle in the top view; the centre line marks the axis of symmetry.

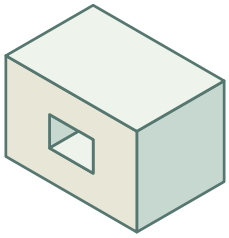
Check

Confirm the top-view circle's diameter equals the width of the front and side rectangles.

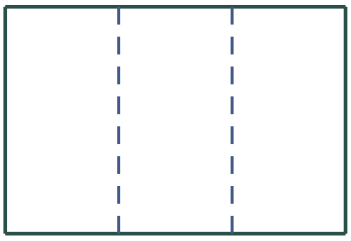
Orthographic Projection Method

Original prompt

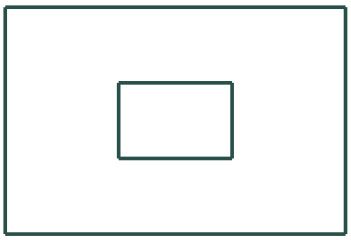
Task 4 — Draw the three orthographic views of a rectangular block with a rectangular hole through it from front to back. Show the visible rectangular opening in the front view and two hidden dashed lines for the bore in the top and right views.



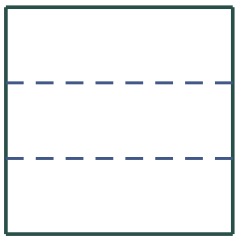
Front-to-back rectangular bore



Top



Front



Right side

Answer

Front: solid exterior rectangle and a solid rectangular opening. Top: solid outside outline and two dashed lines running front to back. Right: solid outside outline with two dashed level lines at the hole's upper and lower edges.

Reasoning

The opening faces the front viewer. From above and from the right, the remaining material hides the edges that run down the length of the hole.

Check

Compare the opening width between front and top and its height between front and right. Follow the two hidden lines to the corresponding opening edges.