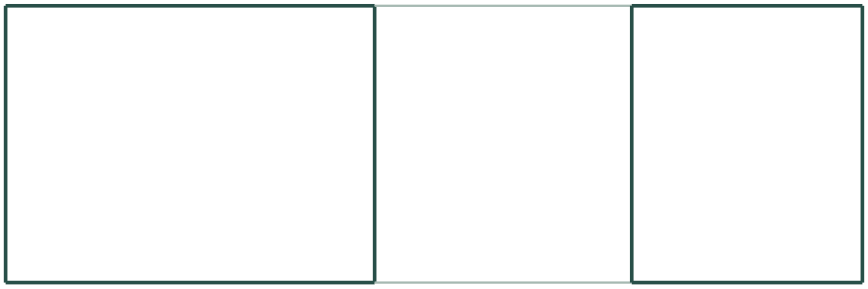
Draw Side View Orthographic Projection

Answer | Task 1 of 4 | A4

Original prompt

Task 1: Given the front-view reference of a plain rectangular block (a rectangle showing height and width), draw the side-view outline aligned to it with horizontal guides, and state which dimension the side view adds.



Given front view Right side

Answer

Side view is a rectangle of the same height as the front view, with a chosen depth. Horizontal guides run from the top and bottom of the front view to the side view. The side view adds depth.

Reasoning

A plain block has no height changes, so only top and bottom guides are needed; the side view shows height and depth.

Check

Confirm the side rectangle's top and bottom sit on the guides and that its horizontal extent is the chosen depth.

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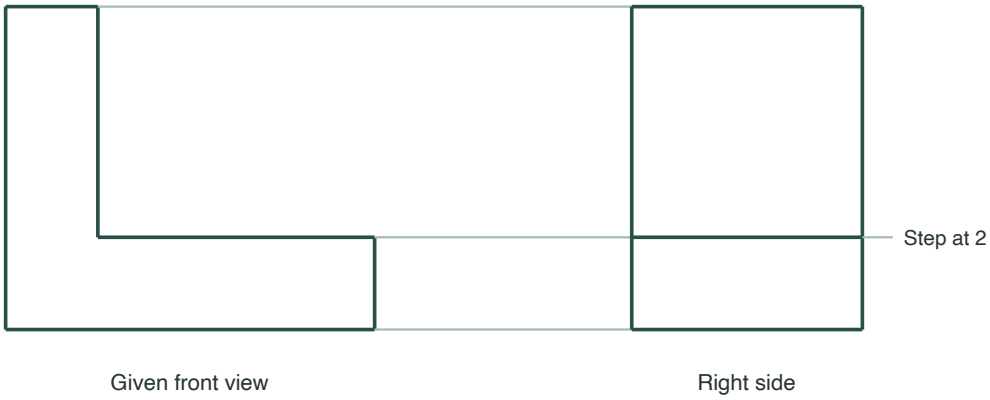
Task 2: Given the front-view reference of an L-shaped bracket (a tall rectangle with a rectangular notch removed from one upper corner, showing full height, step height and width), draw the side view with correct heights carried across by guides, and mark the step height on the side view.



Levels above the baseline: 0, 2, 7 units.

Answer

Side view: a rectangle with the block's full height and a chosen constant depth. Add one solid internal horizontal edge at the step height; the right-side view is not an L silhouette. Mark the step height on that edge.

Reasoning

The block is a constant-depth classroom solid. Looking from the side collapses its front-view width, so the stepped front profile becomes a rectangular side outline with the step height shown as an internal horizontal edge.

Check

Confirm the outer side rectangle has the full front-view height and that its internal horizontal edge lies exactly on the step-height guide. Do not draw the front-view L as the side outline.

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Task 3: Given the front view of a block with two height changes (a rectangle whose top edge has two steps at different levels, showing top height, first change, second change and bottom), construct the side view and add a checking pass that lists each height and confirms it matches the front view.



Given front view

Right side

Levels above the baseline: 0, 2, 4, 6 units.

Answer

Use the selected front-view levels 0, 2, 4 and 6 units for bottom, first change, second change and top. Draw a rectangular side outline of chosen constant depth and height 6, with internal solid horizontal edges at heights 2 and 4. Checking pass: 0, 2, 4 and 6 each match the corresponding front-view level.

Reasoning

In the selected example the two height changes occur at 2 and 4 units, between bottom 0 and top 6. The side view collapses width; the same levels appear as two internal horizontal edges in a rectangular outline.

Check

Check the outer side rectangle: its top edge meets the 6-unit guide and its bottom edge meets the 0-unit guide. Check that the two internal horizontal step edges meet the 4-unit and 2-unit guides. List all four values and confirm each matches the front view.

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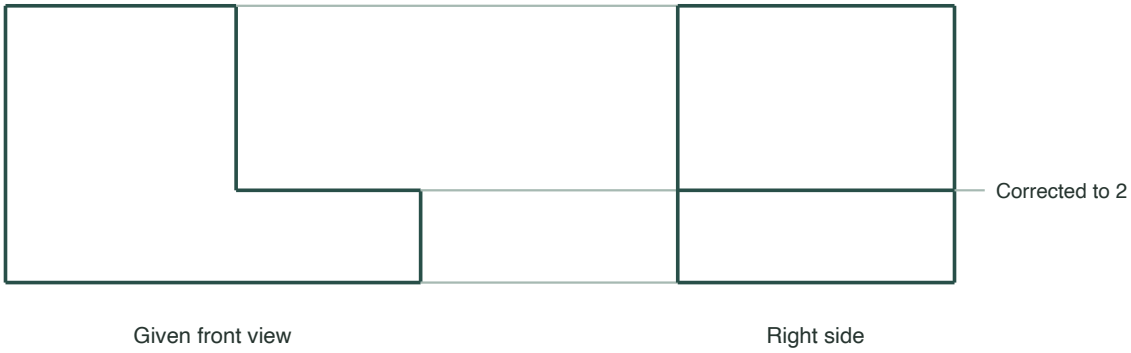
Task 4: Given the front-view reference of a stepped block and a completed side view in which one height is deliberately misaligned, find and correct the misalignment, explaining how the guides reveal the error.



Levels above the baseline: 0, 2, 6 units.

Answer

The given side view's horizontal edge is at 2.8 units, but its front-view guide is at 2 units. Move only that edge to the 2-unit guide; keep the outer outline and all other aligned heights unchanged.

Reasoning

The front-view reference fixes the intended step height at 2 units. The given side-view edge at 2.8 is the single deliberate misalignment, so its position must be corrected to the same horizontal guide as the front step.

Check

Trace all guides after correction. Confirm the formerly misplaced line is at 2.0 units rather than 2.8, and every other side-view height still matches its front-view guide.