Draw a Simple 3D Model from Front, Side, and Top Views

Original tasks 1, 2, 3, 4 / complete keys

Task 1

A model is 5 squares wide, 2 squares deep, and 3 squares high. State the front, side, and top dimensions in squares.

Answer: Front: 5 wide by 3 high. Side: 2 wide by 3 high. Top: 5 wide by 2 deep.

Reason: Width appears in front and top, depth in side and top, height in front and side.

Check: Count squares on shared edges: height 3 in front and side, width 5 in front and top, depth 2 in side and top.

Task 2

Light comes from the upper-right front. A front face turns toward the light and a right side face turns away. Assign light, middle, or dark tones to those two faces.

Answer: Front face: light. Right side face: dark. A top face could be middle if it angles between them.

Reason: Faces toward the light are lighter; faces away are darker; angled faces take the middle tone.

Check: Re-read the stated light direction and confirm each face's angle matches its tone.

Task 3

Your front view is 4 squares wide and 2 high, but your side view is 5 squares wide and 2 high. The model depth is stated as 3 squares. What is wrong and how do you fix it?

Answer: The side view width should be 3 squares, not 5. Redraw the side view as 3 wide by 2 high.

Reason: Side view width equals depth, which is stated as 3 squares.

Check: Compare side width to the stated depth and count squares again.

Task 4

You choose to omit hidden edges. Write the convention sentence and explain how the rubric treats this choice.

Answer: Convention: front faces viewer, side rotated 90 degrees right, top rotated 90 degrees up, light upper-left front, hidden edges omitted. The rubric accepts this if the rule is stated and applied to all views.

Reason: The task allows valid alternatives when the convention is explicit and consistent.

Check: Check that no dashed hidden edges appear and that the written rule matches all three views.

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Task 1 / answers component diagram

Task 1 / Front view: 5 wide by 3 high

Only source-labelled measurements are fixed. Unlabelled sizes illustrate the stated relationships.



Front

front rect width: 5 source units

front rect height: 3 source units

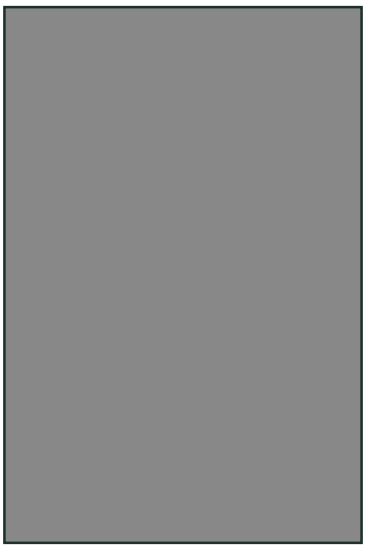
Illustrative layout; no physical centimetre sizes are implied.

Draw a Simple 3D Model from Front, Side, and Top Views

Task 1 / answers component diagram

Task 1 / Side view: 2 wide by 3 high

Only source-labelled measurements are fixed. Unlabelled sizes illustrate the stated relationships.



Side

side rect width: 2 source units

side rect height: 3 source units

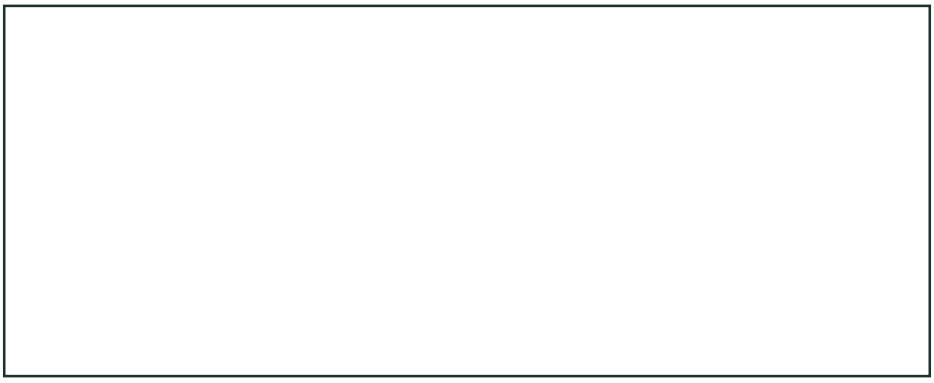
Illustrative layout; no physical centimetre sizes are implied.

Draw a Simple 3D Model from Front, Side, and Top Views

Task 1 / answers component diagram

Task 1 / Top view: 5 wide by 2 deep

Only source-labelled measurements are fixed. Unlabelled sizes illustrate the stated relationships.



Top

top rect width: 5 source units

top rect height: 2 source units

Illustrative layout; no physical centimetre sizes are implied.

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Task 3 / answers component diagram

Task 3 / Corrected side view: 3 squares wide by 2 high (not 5 wide).

Only source-labelled measurements are fixed. Unlabelled sizes illustrate the stated relationships.



side view

side view rect width: 3 source units

side view rect height: 2 source units

Illustrative layout; no physical centimetre sizes are implied.

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Original rubric / reflection

- [ ] Convention is written and applied to all three views.
- [ ] Width, depth, and height are stated once and reused consistently.
- [ ] Shared edge lengths match across views by square count.
- [ ] One light direction is stated and tone logic is consistent.
- [ ] Annotations are clear and kept outside model outlines.
- [ ] Valid alternative choices, such as omitting hidden edges, are stated and applied consistently.

Reflection: What did you check, what did you change, and what will you try next?