Choosing useful 2D representations of objects

6 questions | 11 marks

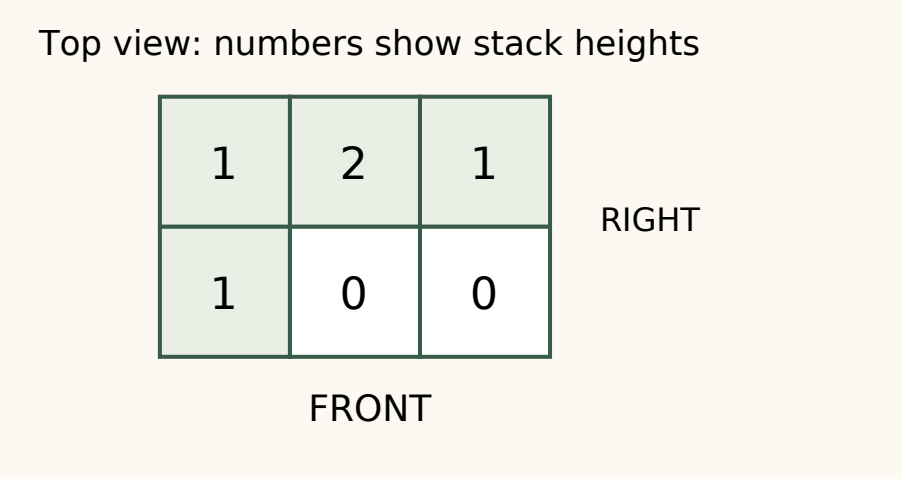
Equivalent correct methods earn the corresponding marks.

1. Which representation is most useful for cutting out the faces of a box so they can be folded together? [1 mark]

It shows all faces and their joins.

Answer: A net

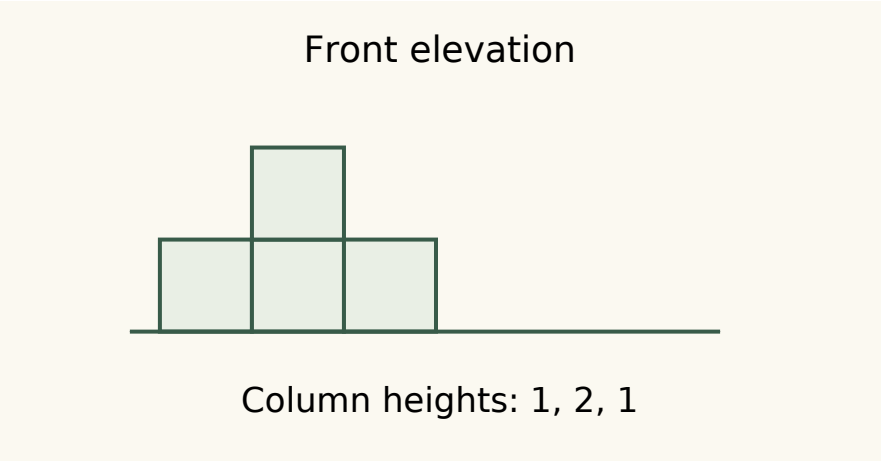
2. Use the labelled plan shown to find the total number of cubes. [2 marks]



Add all stack heights: $1+2+1+1+0+0=5$.

Answer: 5 cubes

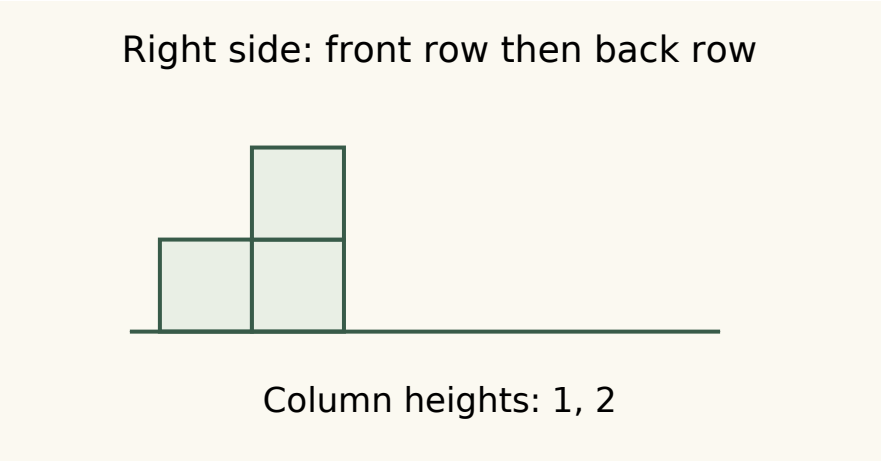
3. Use the plan shown. Draw the front elevation on square paper and state its heights, left to right. [2 marks]



Take the greatest height in each left-to-right column across both rows.

Answer: 1, 2, 1

4. Use the plan shown. Draw the right-side elevation. When viewed from the right, show the front row then the back row from left to right. State the two heights. [2 marks]



Looking from the right makes the front row the left-hand column of this elevation.

The front row has maximum height 1; the back row has maximum height 2.

Answer: 1, 2

5. A front view of a rectangular building is 12 m wide and 5 m high. Can you find its volume from this information alone? Explain. [2 marks]

Front view supplies width and height only.

Volume also needs the distance from front to back.

Answer: No; the depth is missing.

6. A designer wants to show both room positions and the outside height of a house. Explain why two drawings may be clearer than one angled sketch. [2 marks]

Each view makes the relevant dimensions clear.

An angled sketch can hide features or distort apparent lengths.

Answer: Use a floor plan for room layout and an elevation for height.