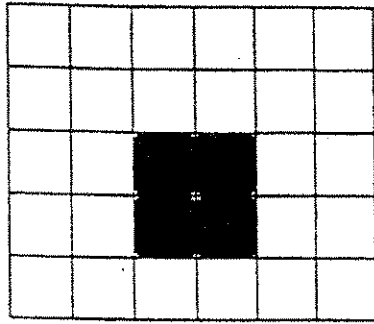
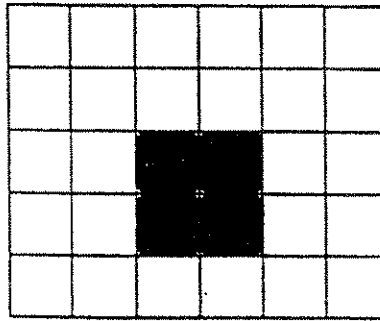


Puzzles: Building from Silhouettes

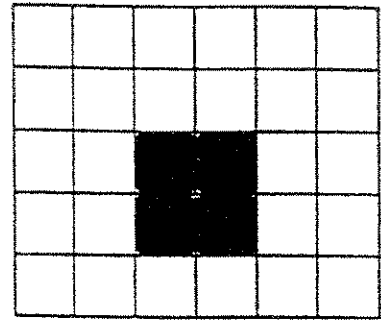
For each puzzle below, construct a cube building that makes the three silhouettes. Do any other buildings also make these silhouettes?



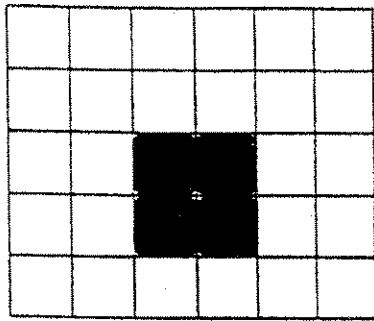
1. Front



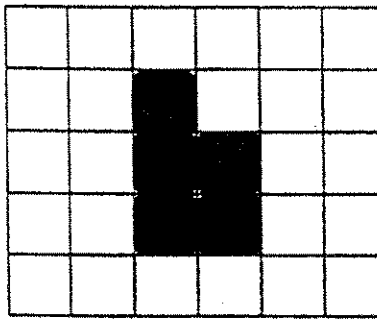
Top, as seen from the front



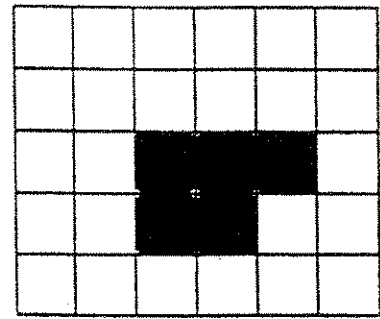
Right side



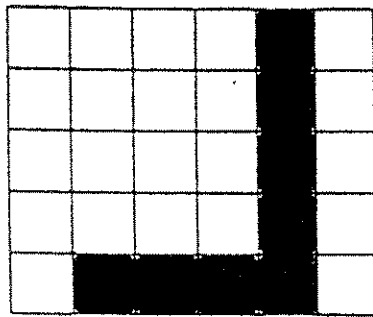
2. Front



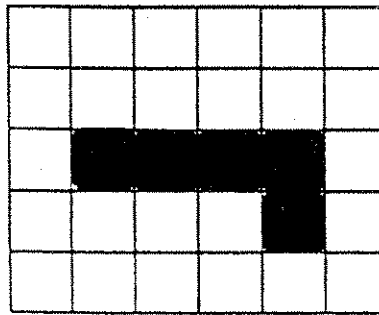
Top, as seen from the front



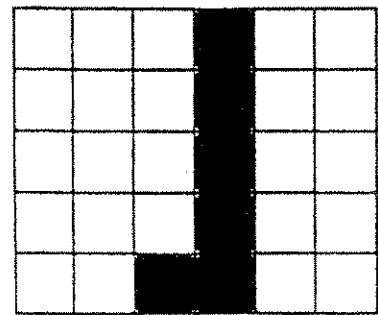
Right side



3. Front



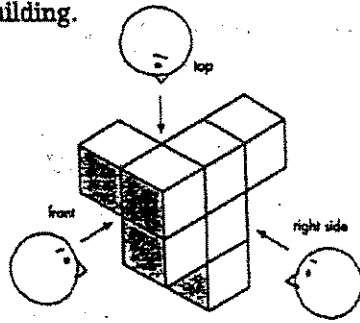
Top, as seen from the front



Right side

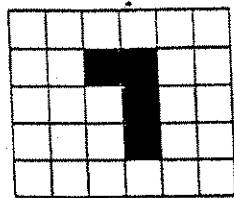
Challenge: How many different cube buildings make the three silhouettes in puzzle 1? in puzzles 2 and 3?

Use cubes to make this building.

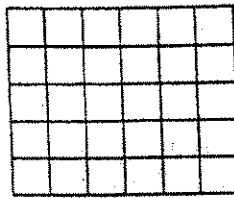


Two silhouettes of the building are shown below. One was seen from the front, and one from the right side. The silhouettes are drawn on graph paper so we can see where the cubes are.

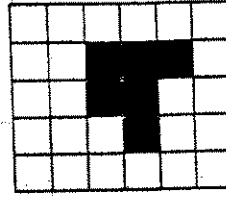
What do you think the top silhouette looks like?



Front

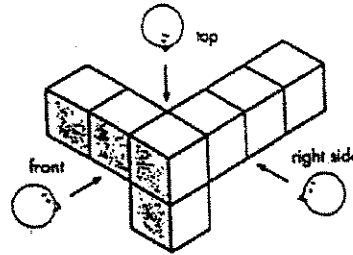


Top



Right side

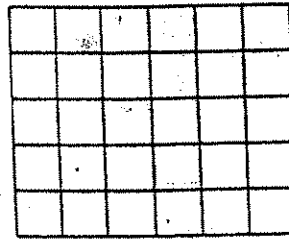
Make each building with cubes. Then draw the silhouettes for both.



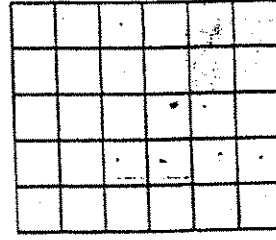
1.



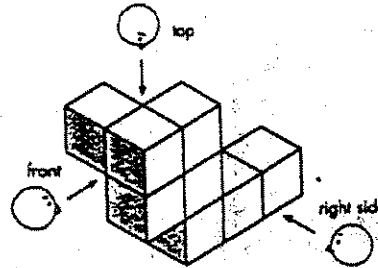
Front



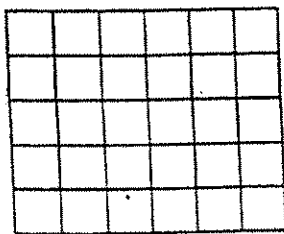
Top, as seen from the front



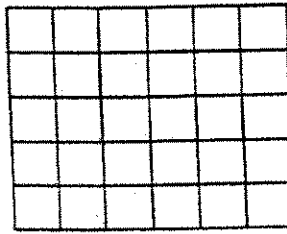
Right side



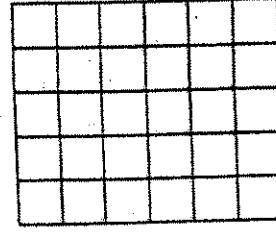
2.



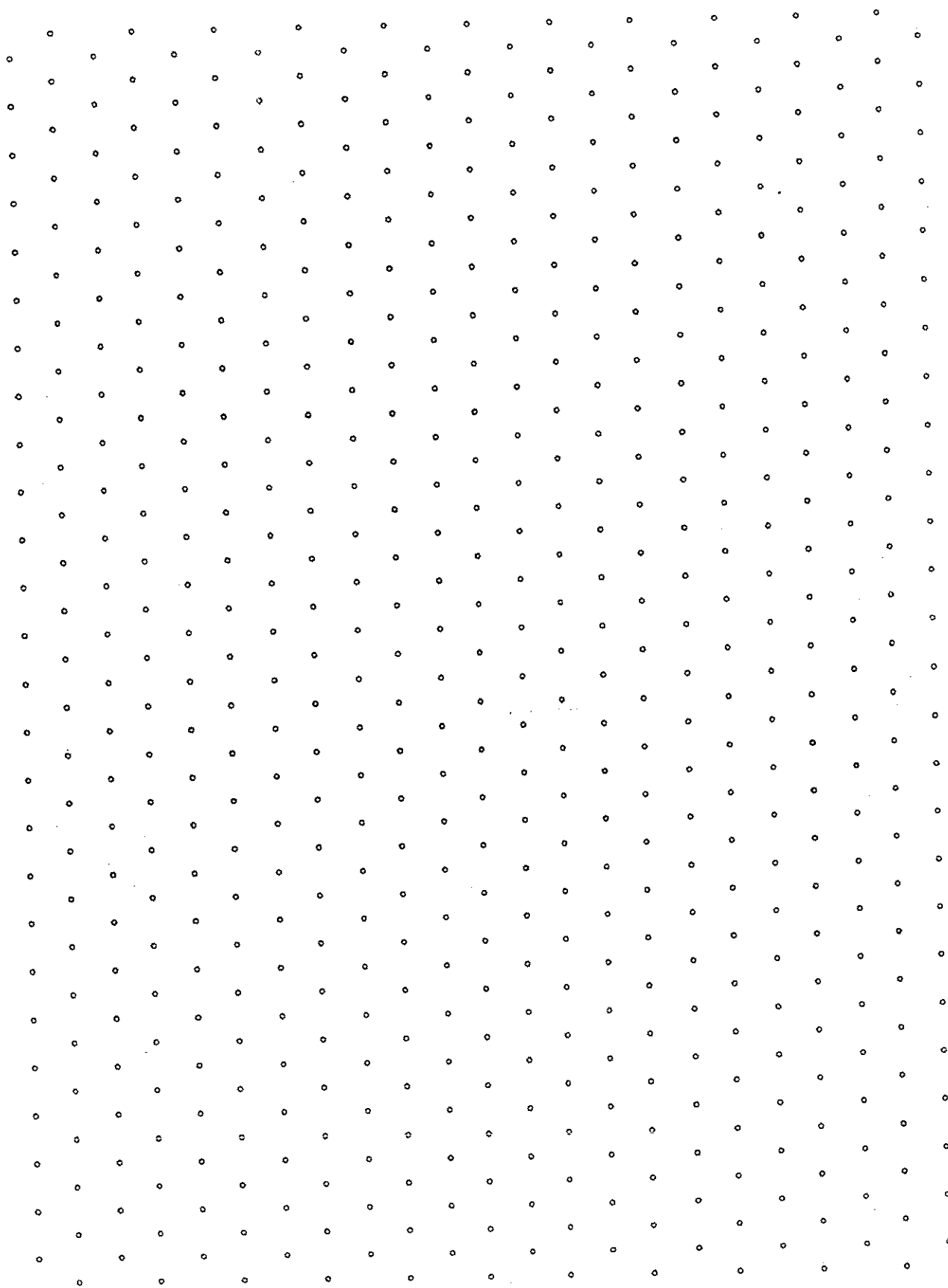
Front



Top, as seen from the front



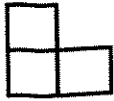
Right side



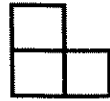
18.1 Shoeboxes *Have Faces and Nets*

1. Your "box" should be taller than it is wide or deep.
2. Did you start at the top and take advantage of the last cube drawn, in adding later cubes?
3. a. 5 faces, 5 vertices, 8 edges b. 5 faces, 6 vertices, 9 edges
4. The net shows only 5 faces, and a cube has 6 faces.

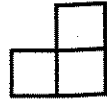
5. a.



Front view



Right side



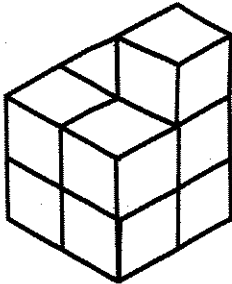
Top view (from front)

b. Do you see two possible answers for the top view, depending on what might or might not be hidden in the back left corner??

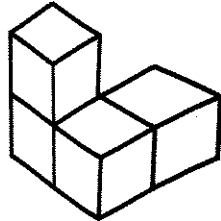
c. They are like views from the reverse (or mirror images).

6.

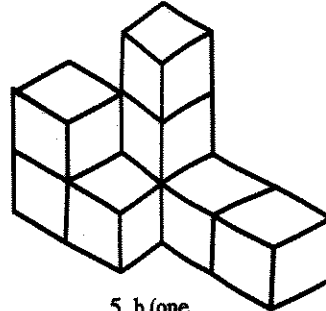
a.



The given shape



5. a (one possibility)



5. b (one possibility)