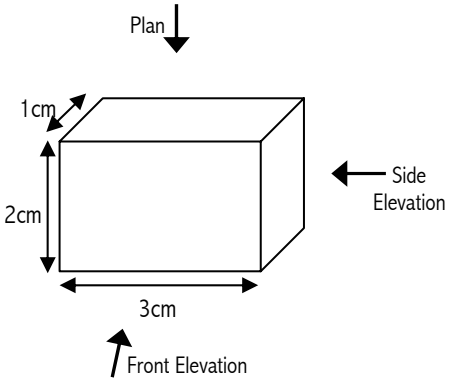
Draw Front, Plan and Elevation Views of 3-D Shapes – iSS9

This is all about drawing 3-D shapes in 2-D. One way is to draw out the net of the shape, this is where each side is drawn out flat; more of this later. Another way is to consider what can be seen from different directions. The plan means the view from above.

One way to learn about this is to take some 3-D shapes and/or construct some simple shapes with cubes and view the shape at a distance from different directions.

Consider this cuboid. From above, the plan view, all that can be seen is a 1cm by 3cm rectangle. From the side and front all that can be seen are also rectangles – we will come back to this after looking at an example.



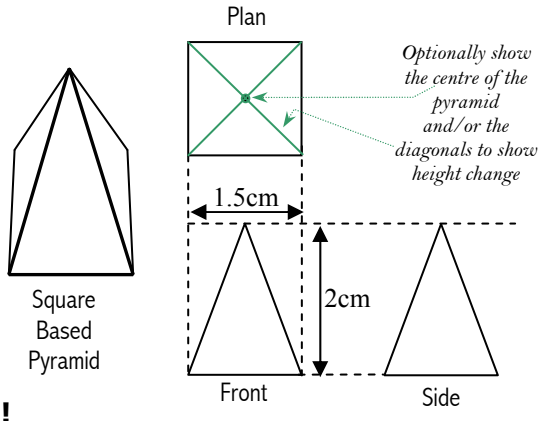
Example

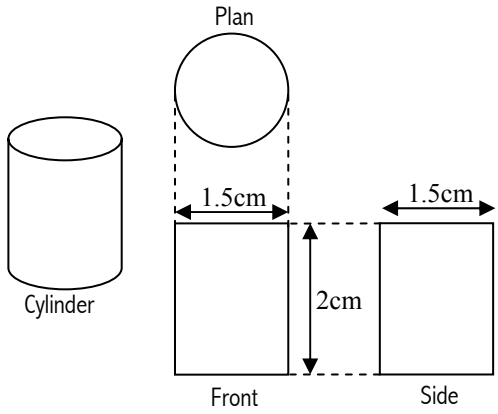
Draw the accurate front, side and plan elevations of:

a) a square based pyramid with a base of sides 1.5cm and a perpendicular height of 2cm.

b) a cylinder with a diameter of 1.5cm and a height of 2cm.

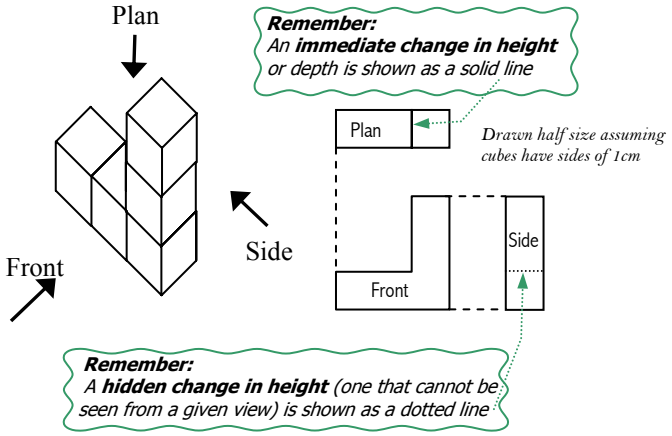
Solution

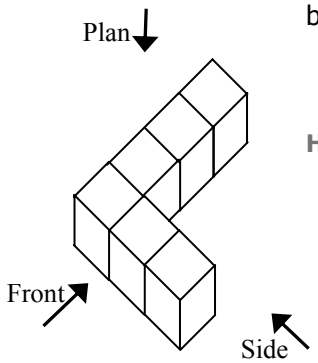




Your Turn!!

a) Draw accurately the plan, side and front view of the cuboid shown on the top right of this page.





Your Turn!!

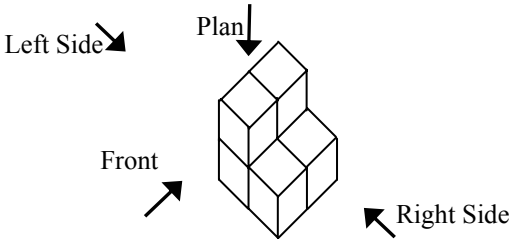
b) Similarly draw 3 **accurate** views and assume the side of each cube is 1cm.

Hint: The front view needs one dotted line and the side view one solid line to show height change.

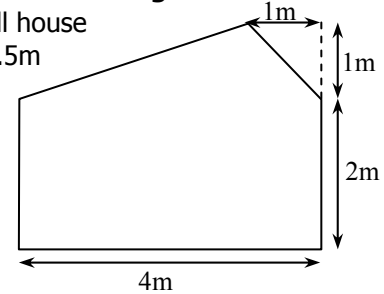
***TIP**: Draw the outside of your view **first**! Only then **add** in the **change of height lines**!*

RAPID 'ACID' TEST – Blank out the page above before answering these!

1. a) Accurately draw the front, right side & plan elevations of the given shape. *Assume the side of each cube is 1cm.*
b) Draw the view from the **left** side.



2. The front elevation of a small house is as shown. The house is 3.5m deep and the shape of the house does not change from front to back. Draw the side & plan views. Use a similar scale of 1cm to 1m as used in this front elevation.



Hint: Draw height difference lines on your views. You need one for your side view and one for your plan view. These show the height difference of the slanted roof.

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