

fs4u

Practical Drawing & Measuring

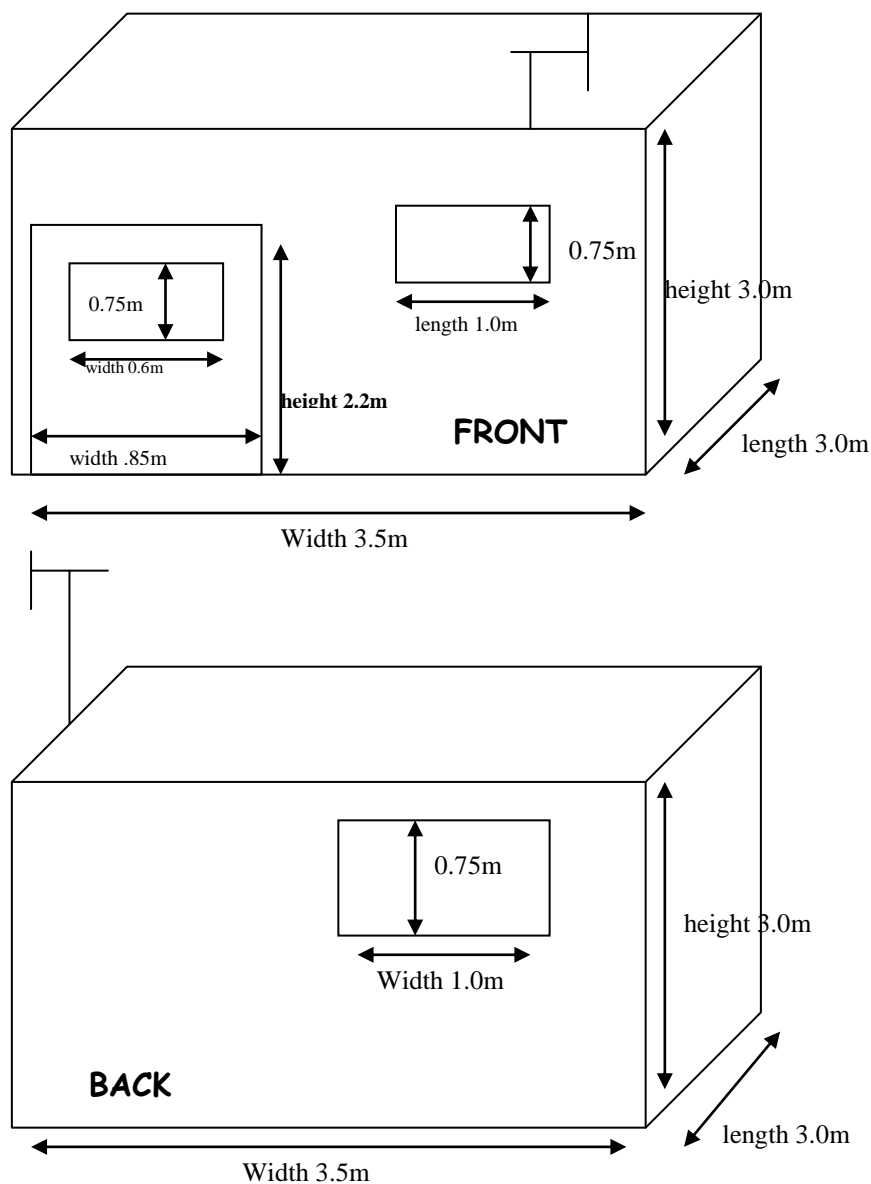
‘How To’ Booklet 17

Drawing plans from 3-dimensional objects

3-dimensional drawings (3D for short) can be used to draw 2-dimensional (flat) plans.

2-dimensional drawings are very useful if they are drawn to scale because measurements can be taken from the plan without having to leave the office - much more convenient than going outside!

A front and a back view of a shed are shown in 3D below.

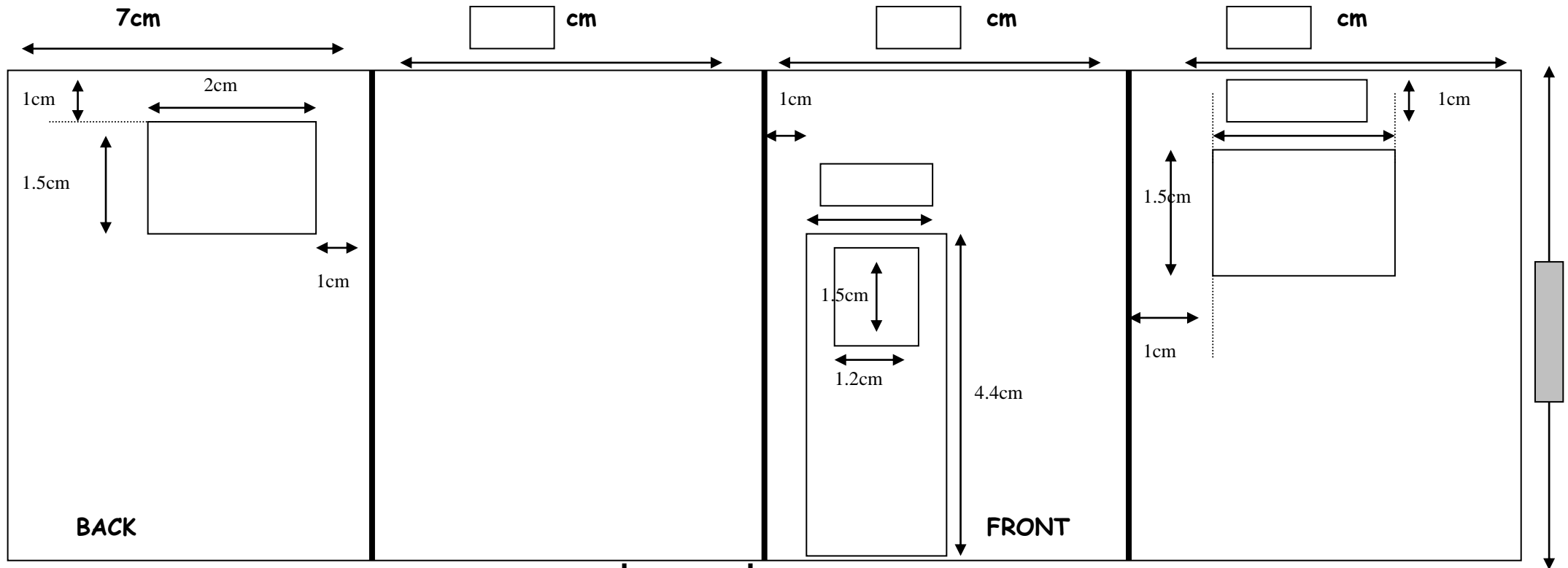


Activity 1

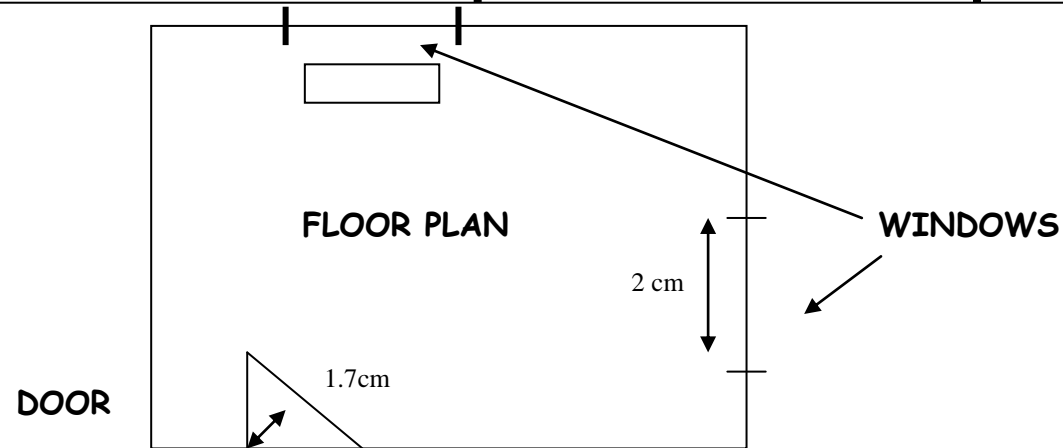
Imagine that the shed is made of card and that you have cut along the edges and laid it out flat.

Fill in the missing dimensions on the 2D plan of the walls and floor on the next page. (The roof is not included)

Scale 2cm to 1m



The floor plan has to be shown separately because it is the only view looking at the INSIDE of the shed



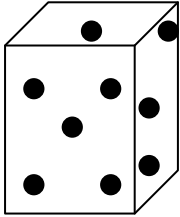
Volume (16)

Activity 2

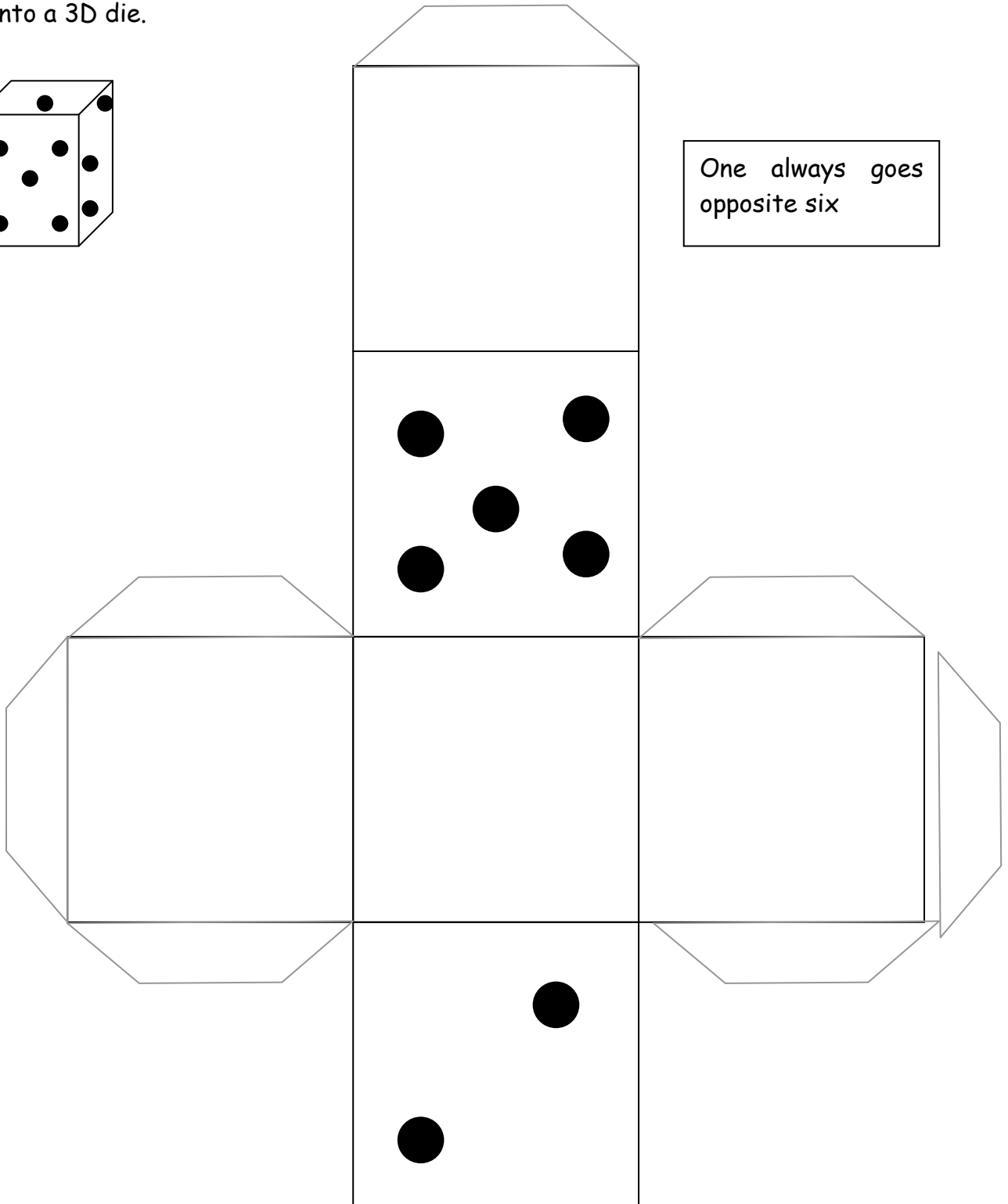
Use the scale to find how far each window and the door are from the respective edges of the shed. Mark in these measurements on the 3D drawing. Draw in the TV aerial on the 2D Plan

Activity 3

A 3D drawing of a die is shown - complete the 2D drawing - cut it out and make the net into a 3D die.



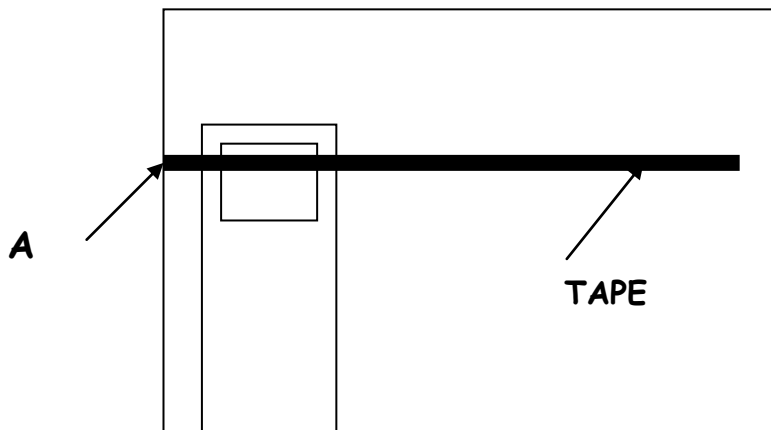
One always goes
opposite six



Measuring Using A Tape

The dimensions of the walls, door and windows are shown on the 3D drawing, but the positions of the doors and windows are not. In fact they are all exactly 0.5m from the edges of the shed. It is very easy to forget some measurements when measuring a real object for a job such as decorating.

The best way is to work from each edge and note all the measurements without moving the tape:



It is easiest if at least two people work together. One holds the tape and the other reads it and notes the measurements.

The sort of notes for the front of the shed would be like those below.

DISTANCES FROM THE LEFT HAND EDGE AND THE TOP ARE JUST READ STRAIGHT FROM THE TAPE.

Activity 4

Try the measuring technique by using a tape to measure the dimensions of one wall of your classroom. Draw a 2D picture to a scale of 2 cm = 1m.

Show all the details such as radiators, windows etc.