

3D CAD | NS EXAM PREPARATION

3D MODELLING: MAKE THIS!

You will be expected to answer a range of questions about 3D modelling. You should use sketches and annotations to illustrate your answers.

You will be shown a sketch, drawing or 3D model and asked to describe how particular features were created or how they could be modified.

Before answering any 3D modelling or CAD question, you should look at the drawing or model carefully. List any modelling techniques that are apparent. If there is more than one way of completing a feature, try to identify the simplest way of modelling the component. If you are given particular dimensions, ensure that you reference these in your answer.

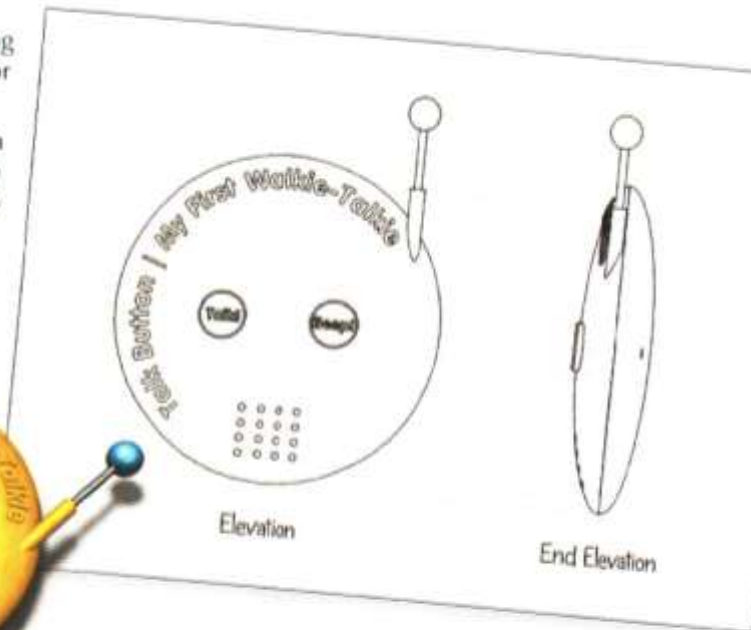
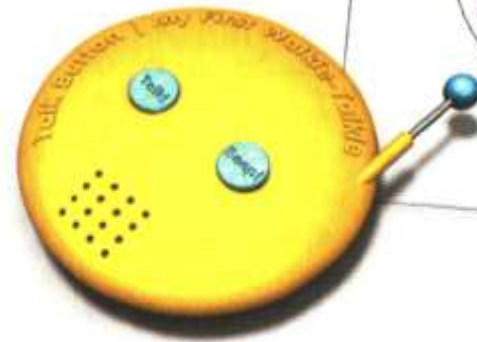
You should practise sketching modelling plans – this will help you to answer questions confidently during your exam.

CAD: QUESTION TIME

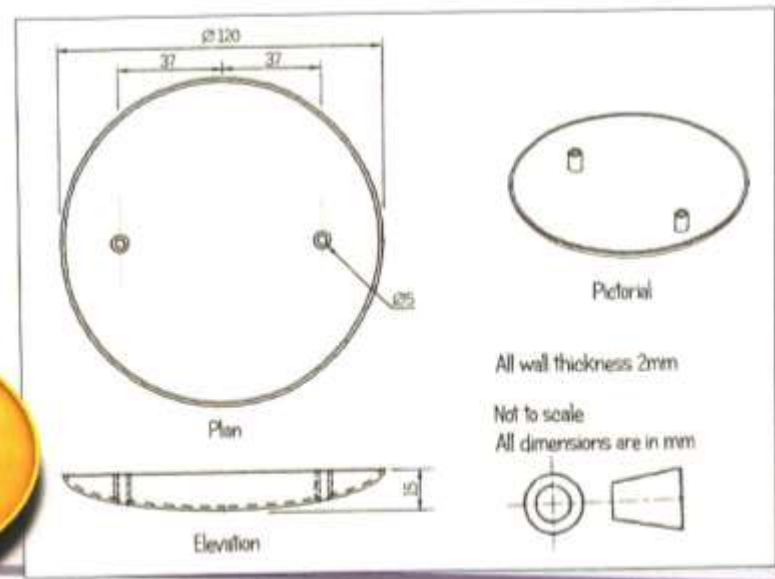
1. State the name of **three** input devices.
2. State the name of **three** output devices.
3. Describe three advantages of CAD over manual drawing techniques.
4. Describe what is meant by the following terms:
 - Pan
 - Rotate
 - Array
 - Constrain:
5. Read the information given about the walkie-talkie and study the pictures. Then, describe, in the proper order, the 3D modelling techniques used to create the bottom of the case. Make reference to the dimensions in the preliminary sketch.

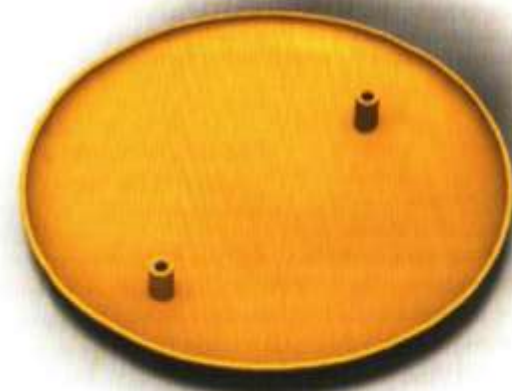
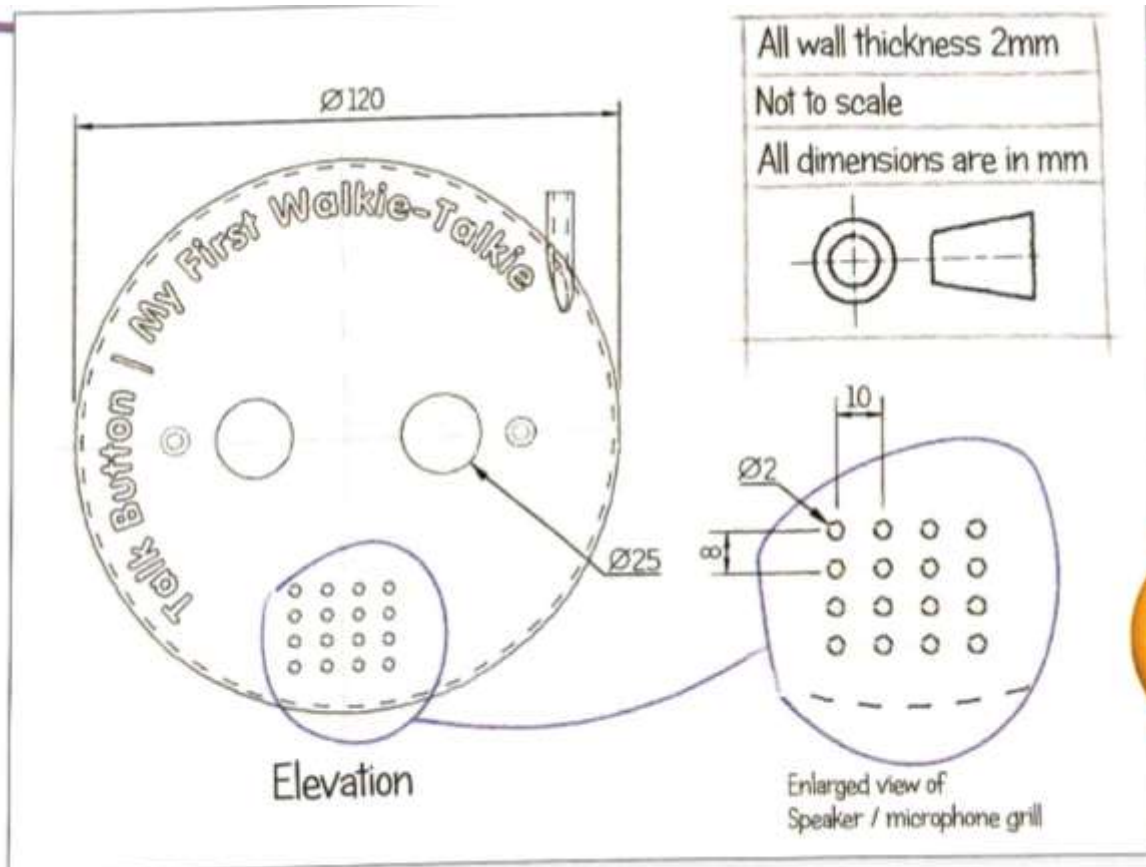
A toy manufacturer is planning to produce a walkie-talkie for young children.

They have sketched a preliminary design and given this to a CAD technician to create a 3D model.



The bottom of the case was the first component to be 3D modelled. The CAD technician made a dimensioned preliminary sketch before making a modelling plan.





6. Describe, in the proper order, the 3D modelling techniques used to create the speaker/microphone grill. Make reference to the dimensions in the preliminary sketch.

The CAD technician used the extrude command to cut the 16 speaker holes into the case.

7. State how far the circles must be extruded to create the holes on the case.

The CAD technician used 3D modelling assembly commands to join the two component parts of the case.

8. Describe how the two components were assembled using 3D modelling software. Refer to both the preliminary sketches to assist with your answer.