23 Irvine Royal Academy—Technical Department

S3/S4 Graphic Communication

Modelling Plans

A Modelling Plan is a method of planning out how you will create an object using a 3D CAD package, such as Inventor. In your National 5 assignment, you will be expected to sketch a modelling plan for one of your parts. It is also a good way that the SQA can test your knowledge of 3D CAD in an examination.

National 5 Modelling Plans

When making a modelling plan in an examination, the marker is looking for the following:

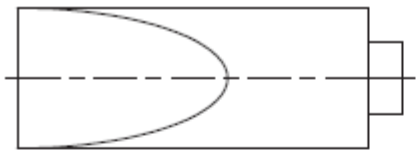
1 You know the correct names for the process

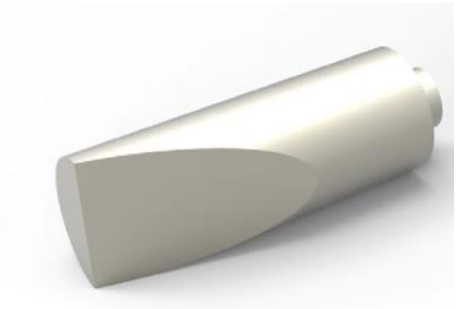
2 You can indicate the correct dimensions (obtained from the drawing given)

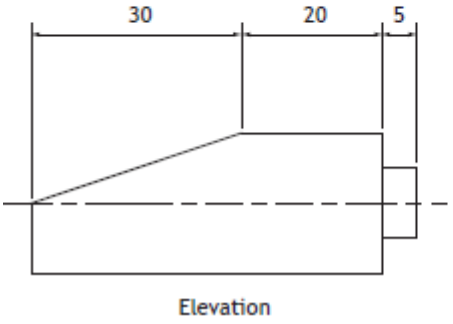
3 In National 5, the SQA usually gives you something that will use **Revolve**, so think about it first.

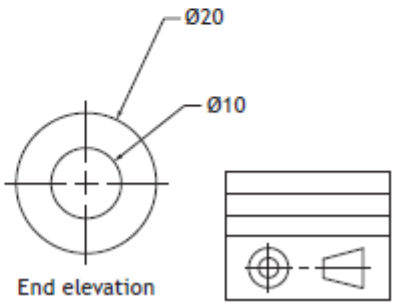
Note that you don't need to sketch in your answer, but it is a lot easier to do this.

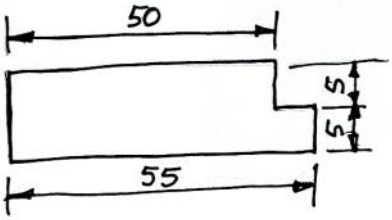
In the following Modelling Plan (taken from a past paper), the places where the marks are gained are highlighted in yellow.







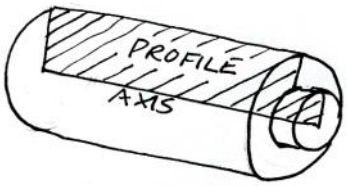




① Sketch PROFILE to sizes shown

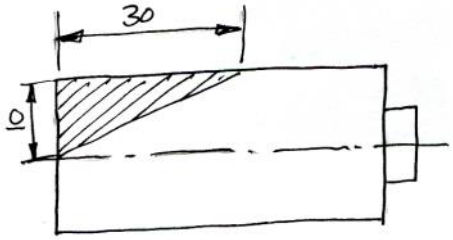
NOTE

In the first sketch, it is only **half** of the final shape that is used—you will need to halve the diameter values.



② REVOLVE Profile 360° around AXIS

When Revolving, use the word **Revolve**, **Axis** (and identify it) and **360 degrees** (usual in National 5)



③ Sketch Triangle to sizes shown

In this stage, you do not need to refer to a new workplane.

④ EXTRUDE SUBTRACT all material

Make sure you say **ALL Material**, as if this was sketched on a workplane on the centre, it would only remove half of the material.