

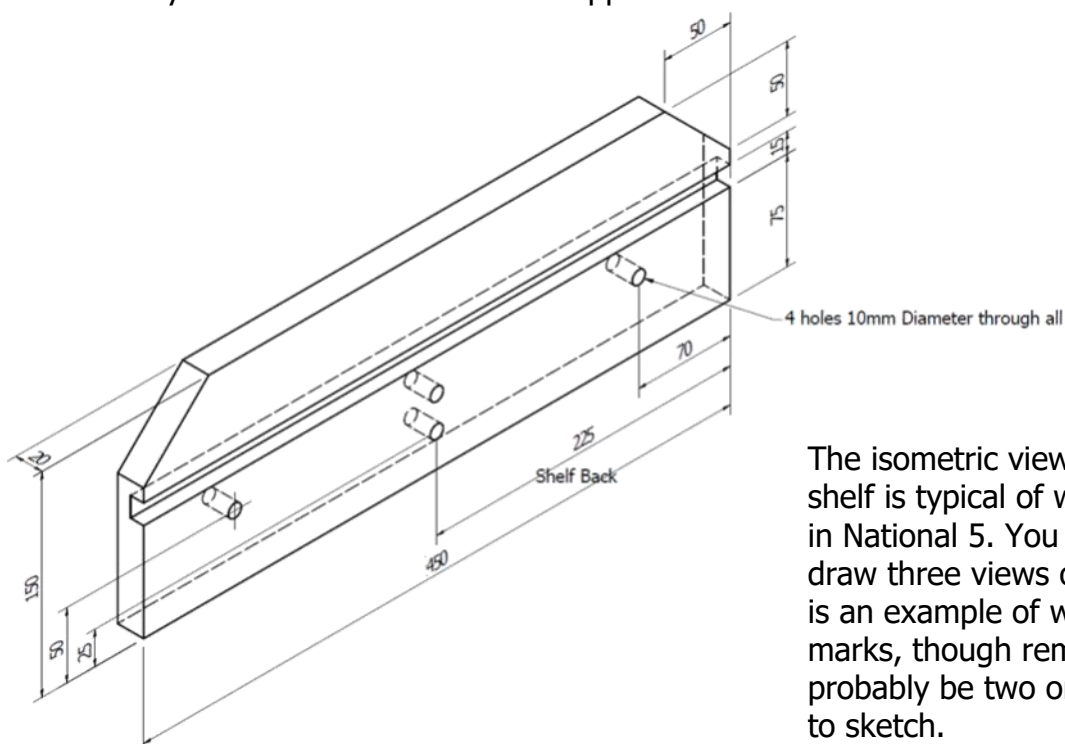
Sketching Orthographic Drawings (SQA)

As part of your SQA National 5 Assignment you will be asked to draw **Preliminary Sketches** of certain components. You will usually be given a **Pictorial View**, such as an **Isometric** or **Perspective** drawing of the parts, and perhaps an **Assembly** or **Exploded View** of the object. Normally the SQA assignment breaks down what you have to produce into three different areas:

- 1 **Orthographic Sketches** of each component, complete with sizes.
- 2 **Orthographic Sketches** of the **Assembled** object.
- 3 A rendered **Pictorial View** of the **Assembled** object.

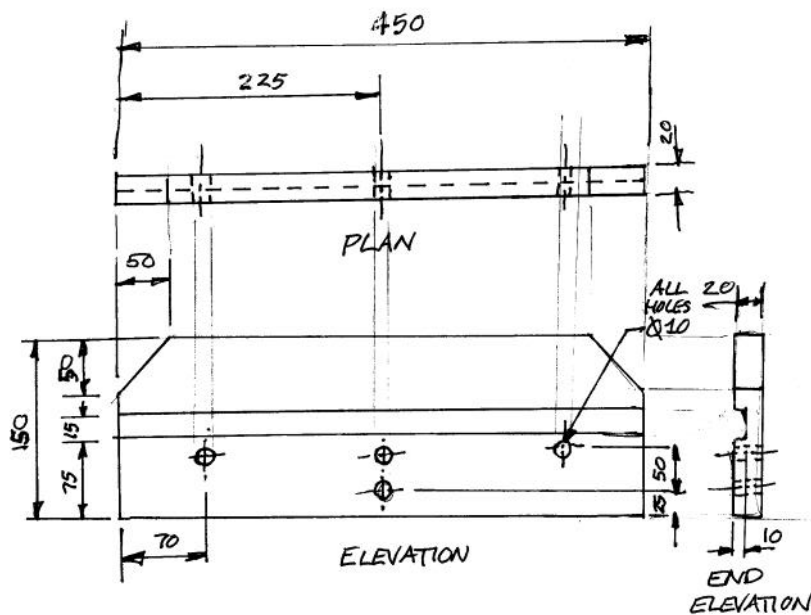
1 Orthographic Sketches of Components

- When drawing these, you will be expected to produce an **Elevation, Plan** and either one or two **End Elevations**. You should add **Dimensions** to these views.
- The secret is, imagine that you are going to give someone the drawings and expect them to be able to draw the parts on CAD—they will need every detail.
- Hint: If the SQA has shown a dimension in their sketch, you should make sure you include it in yours.
- All sketches **MUST** be in **Third Angle**.
- In these sketches you are usually asked to show **Hidden Detail** (double check the question).
- You may use a **Straight Edge**, but if you measure the sizes, or draw to scale, then you will get **NO MARKS**.
- SQA likes you to show **Construction Lines**, eg to show links between views. Draw these **lightly** and then add **heavy lines** on parts that are visible.
- It is important that your views are in **proportion**, ie they follow the general format of the shape, and are not too long and thin, etc.
- Add any **Centre Lines** that should appear on circles or arcs.



The isometric view of the back of a shelf is typical of what could be given in National 5. You will be expected to draw three views of this. Over the page is an example of what should get full marks, though remember there will probably be two or three components to sketch.

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Things to note in the sketch shown:

Construction lines are left in—this shows how the plan and elevation line up, etc.

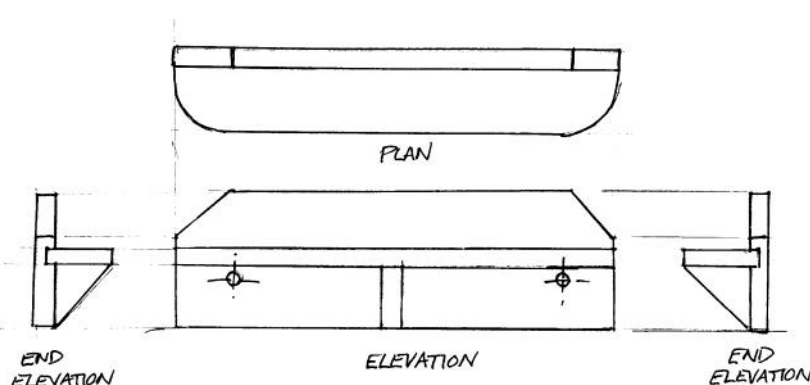
If there is a size missing on the original drawing SQA suggests you make one up—in this case the depth of the housing was made 10mm.

Make sure the thickness of the end elevation is the same as the thickness of the plan.

Make sure the dimension lines are drawn as close as possible to British Standard rules.

1 Orthographic Sketches of Assembly

- When drawing these, you will be expected to produce an **Elevation, Plan** and either one or two **End Elevations**. You are not normally expected to **Dimension** to these views.
- You will need to imagine in your head how the object will look when it is assembled.
- Hint: If the SQA has shown a picture of the assembled object, perhaps from a different viewpoint, use this to assist.
- NOTE: sometime the SQA will indicate in what direction the **Elevation** should be looked at.
- All sketches **MUST** be in **Third Angle**.
- In these sketches you are usually **NOT** asked to show **Hidden Detail** (double check the question).
- You may use a **Straight Edge**, but if you measure the sizes, or draw to scale, then you will get **NO MARKS**.
- SQA likes you to show **Construction Lines**, eg to show link between views. Draw these **Lightly** and then add **heavy lines** on parts that are visible.
- It is important that your views are in **proportion**, ie they follow the general format of the shape, and are not too long and thin, etc.
- Check that the **width** of the End Elevation is about the **same** as the **depth** of the plan. You could use a **trammel** to check this.



The orthographic sketches here shows the sort of standard that the SQA is looking for in this part of the assessment.

You may only be asked to do one End Elevation.

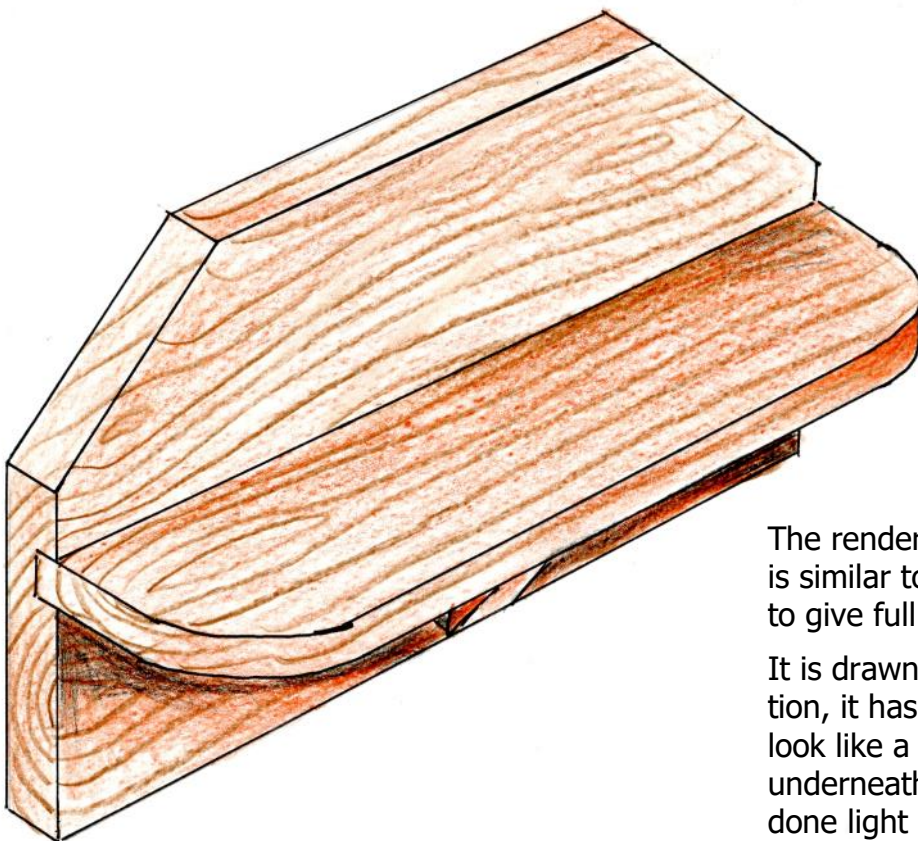
Make sure you draw the views in **Third Angle**.

Note there is no Hidden Detail.

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1 Rendered Pictorial Sketches of Assembly

- This should be a recognised pictorial view type—eg **Isometric**, **Perspective** or **Oblique**.
- You will need to imagine in your head how the object will look when it is assembled.
- Hint: If the SQA has shown a picture of the assembled object, perhaps from a different viewpoint, use this to assist.
- In these sketches you will **NOT** show **Hidden Detail**
- You may use a **Straight Edge**, but if you measure the sizes, or draw to scale, then you will get **NO MARKS**.
- It is important that your views are in **proportion**, ie they follow the general format of the shape, and are not too long and thin, etc.
- The **rendering** should be as good as you can make it. SQA likes you to include **Appropriate Colour, Highlights, Shadows** and **Materials**.
- If you **trace** any of the drawings supplied you will get **NO MARKS**.
- You may be asked to include a **Material**. This is often **timber**, so to emphasise this, use **Wood grain in your answer**.



The rendered pictorial view shown here is similar to what the SQA is looking for to give full marks.

It is drawn roughly Isometric in position, it has woodgrain added to make it look like a material, there are shadows underneath, and the colour has been done light and dark to show highlights.