

External Assessment **practice** paper

NCFE Level 2 Certificate in Engineering Studies (601/4532/8)

Unit 02 Introduction to engineering drawing
(L/506/3766)

Paper number: Practice paper 1 **This is NOT a live paper**

Assessment Window:

Not applicable - Practice paper only

Task 3

Time allowed: 2 hours

Guidance for candidates

- Make sure you're familiar with the assessment criteria and grading descriptors for this unit. These are included at the end of this external assessment. If you're aiming for a Merit or Distinction it's particularly important that you're familiar with what these grades require, as you work through Task 3.
- Read Task 3 carefully and make sure that you understand:
 - ◆ what you need to do to complete Task 3 in full
 - ◆ what you need to submit

Instructions for candidates

- You have 2 hours to complete the assessment. It consists of 1 Task.
- You **must** complete all parts of Task 3 in order to meet assessment criteria 2.1, 2.2, 2.3 and 2.4 fully. You cannot achieve a Pass grade unless you meet the required standard for the assessment criteria.
- All the work you submit must be your own.
- Your 3D drawing completed for Task 3 may be hand drawn or produced using a computer. If you produce your drawings on a computer you should print out a hard copy. You should submit the hard copy only.
- Make sure that all your work is clearly identified with your name, your centre number and your candidate number. These should be written on the **back** of your drawing.
- Once you've completed your external assessment you must sign the candidate declaration on your Candidate Front Sheet, to declare that the work produced is your own and submit it with your work.
- At the end of the assessment the Invigilator will collect all your work in.

Resources

- You may use all of the material given within the external assessment paper, but no other resources should be taken into the examination room.
- You're not allowed to use the internet or any other reference material to help you complete the Task.

This is a list of the equipment you will need for this external assessment

Essential:

- pencils
- A3/A4 blank paper
- ruler
- set square/T-square
- compass
- protractor

Optional (this list is not exhaustive):

- drawing boards
- drawing (technical) pens
- templates
- caliper
- French curve
- CAD software.

PRACTICE

External assessment

Task 3

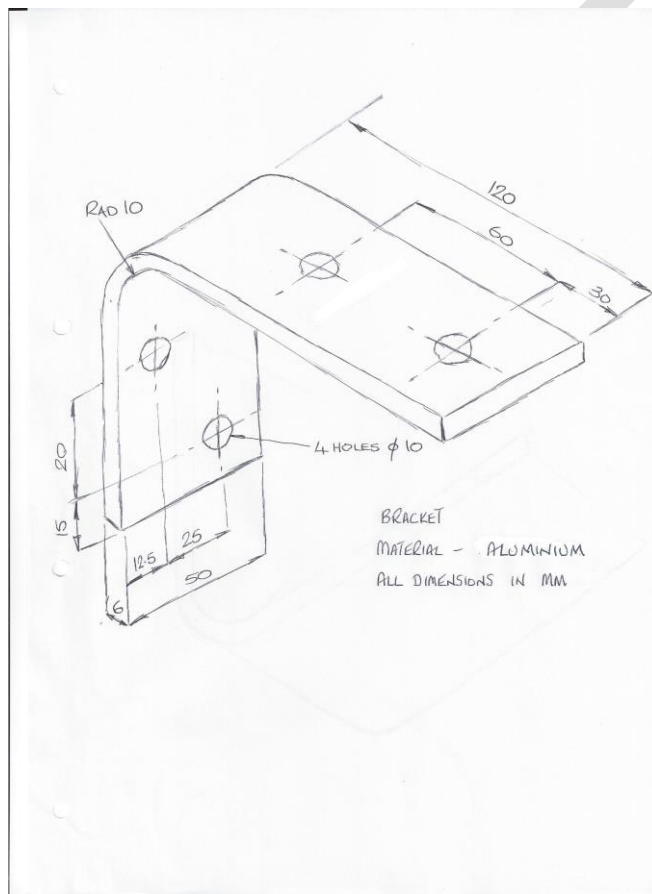
Scenario:

You work for an engineering company which has been asked to design and manufacture a shelf for your old school. The shelf is to support a tennis trophy and a large silver plate which will be displayed in the entrance of the school.

The shelf will be made from glass and will be supported by aluminium brackets.

You're part of the team which is making the shelf and your role is to produce engineering drawings of a bracket holding the shelf. The engineers will then use your drawings to construct the brackets for the shelf.

You've been given a sketch of the bracket below to use to produce your engineering drawings.



You must ensure your work in Task 3 addresses assessment criteria 2.1, 2.2, 2.3 & 2.4. You can refer to the assessment criteria at the end of this Task.

Look at the sketch on page 4.

Your task is to produce a **3D** drawing which will be used to make the bracket for the shelf. The drawing must be:

- 3D
- correctly laid out on A3 paper
- drawn to scale. You should choose the scale you think is most appropriate.

You should:

- plan your work carefully.
- make a list of the tools you use
- keep rough sketches, annotated drawings etc, so that you can show the processes you've gone through to produce your final drawing.
- use appropriate drawing tools and equipment. You can decide whether to draw by hand or use a computer.

If you produce your drawings on a computer they should be printed out and submitted as a **hard copy only**.

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Assessment criteria

The assessment criteria 2.1, 2.2, 2.3 and 2.4 are detailed below. If you're aiming for a Merit or Distinction it's particularly important that you're familiar with what these grades require, as you work through the tasks.

Assessment criteria	Pass	Merit	Distinction
2.1 Demonstrate the correct layout of a design sheet for 2D and 3D engineering drawings	Candidates will demonstrate the correct layout of a basic design sheet for 2D and 3D engineering drawings	Candidates will demonstrate the correct layout of a detailed design sheet for 2D and 3D engineering drawings	Candidates will skilfully demonstrate the correct layout of a sophisticated design sheet for 2D and 3D engineering drawings
2.2 Apply appropriate scales to all drawings	Candidates will apply appropriate scales to all drawings	Candidates will apply appropriate and realistic scales to all drawings	Candidates will skilfully apply appropriate and realistic scales to all drawings
2.3 Demonstrate the accurate use of drawing tools and equipment	Candidates will demonstrate the accurate use of drawing tools and equipment	Candidates will demonstrate the accurate use of drawing tools and equipment showing experimentation	Candidates will skilfully demonstrate the accurate use of drawing tools and equipment showing experimentation
2.4 Present their final 2D and 3D engineering drawings showing evidence of the process involved in its production	Candidates will present their final 2D and 3D engineering drawings showing evidence of the process involved in its production	Candidates will present their final 2D and 3D engineering drawings showing evidence of the process involved in its production, justifying their choices	Candidates will present their final 2D and 3D engineering drawings showing evidence of the process involved in its production showing critical judgement

What you need to do at the end of the external assessment

1. Write your name, your centre number and your candidate number on the **back** of your drawing
2. If you have used additional paper, complete your name, centre number and candidate number on each page.
3. Sign the candidate declaration on the Candidate Front Sheet

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