

Candidate Name _____

Centre Number

Candidate

Number

--	--

**International General Certificate of Secondary Education
CAMBRIDGE INTERNATIONAL EXAMINATIONS**

DESIGN AND TECHNOLOGY

PAPER 3 Realisation

0445/3

MAY/JUNE SESSION 2002

1 hour

Candidates answer on the question paper.
No additional materials are required.

TIME 1 hour

To be taken together with Paper 1 in one session of 2 hours 45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces at the top of this page.

Answer any **two** questions.

Write your answers in the spaces provided on the question paper.

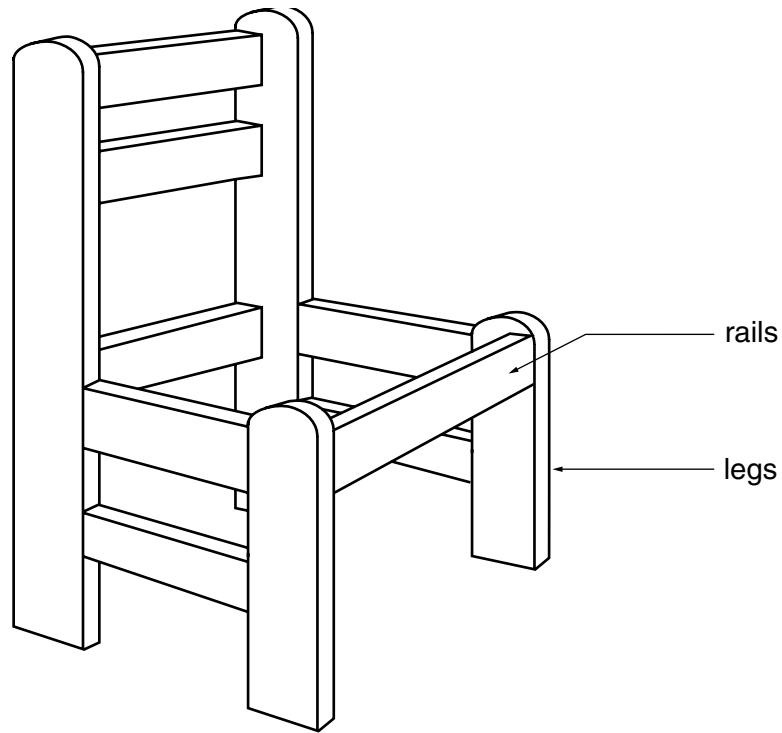
INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part question.

FOR EXAMINER'S USE	
1	
2	
3	
4	
TOTAL	

This question paper consists of 13 printed pages and 3 blank pages.

1 The framework for a child's chair is shown below.



(a) Choose a **suitable wood** for the chair and give **two** reasons for your choice.

wood

reason 1

reason 2[3]

(b) Sketch **two** different ways of joining the rails to the legs.

Method 1.

[4]

Method 2.

[4]

- (c) Describe using notes and sketches the stages in making **one** of the joints given in answer to part (b).

[8]

(d) Describe how the chair is assembled and held for gluing once all of the joints have been made.

[5]

(e) Show by means of a sketch how a seat may be attached to the frame, so that the joining method is not seen from the top.

[4]

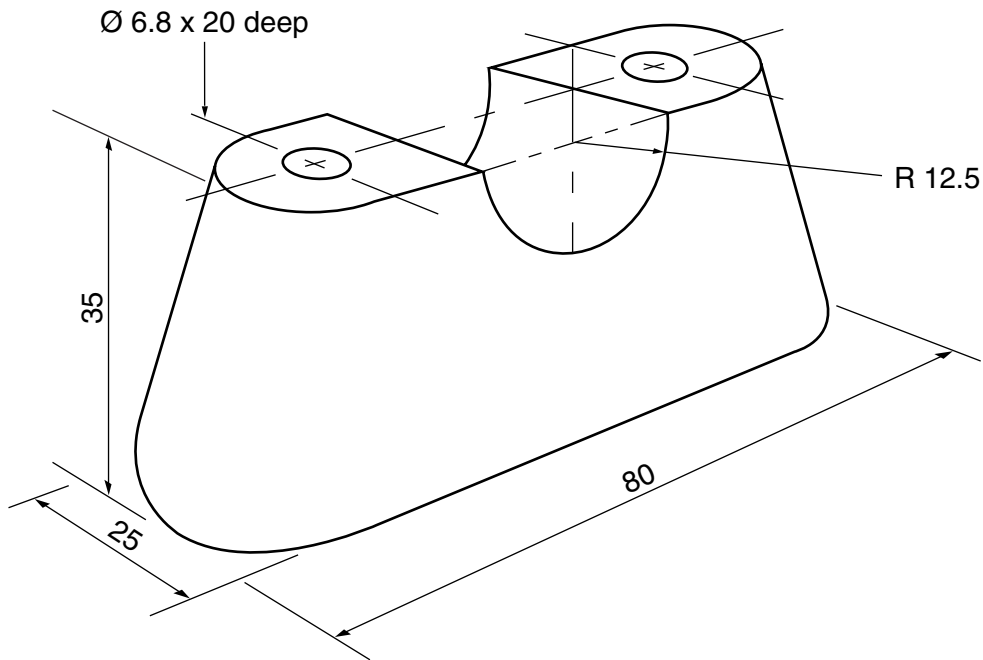
(f) Choose a **suitable finish** for the chair and give **one** reason for your choice.

finish

reason

.....[2]

2 Part of a water pipe bracket is shown below.



(a) Give **two** reasons why aluminium would be a suitable material for the bracket.

reason 1

reason 2 [2]

(b) The bracket is to be made by casting.

Using notes and sketches, as appropriate, explain the meaning of the following terms:

(i) 'green sand';
.....

[4]

(ii) 'pattern';.....
.....

[4]

(iii) 'cope and drag';.....
.....

[4]

(iv) 'runner and riser';.....
.....

[4]

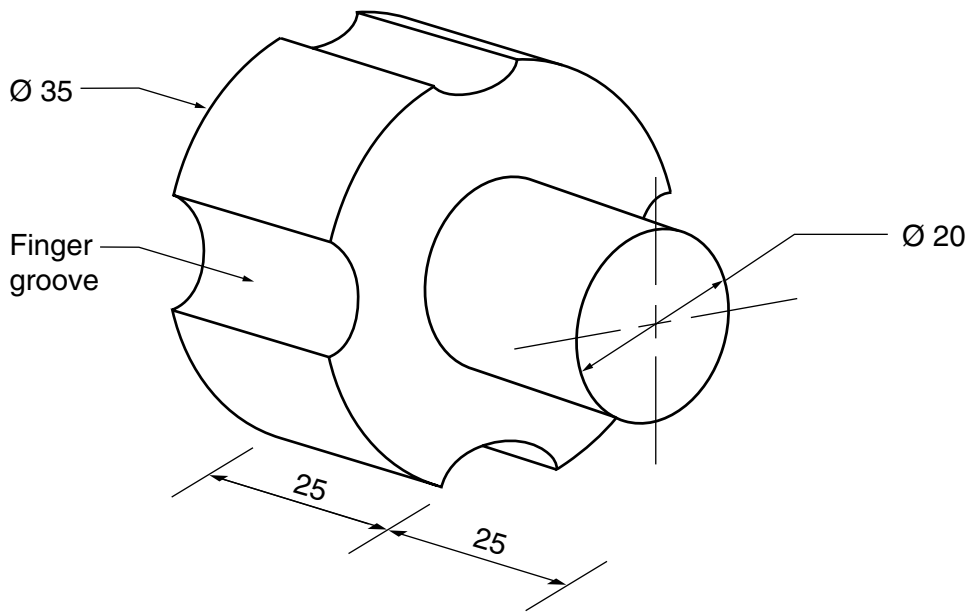
(v) 'venting'
.....

[4]

(c) Using notes and sketches describe how the two blind holes may be threaded to a size of M8.

[8]

3 Details of a small drawer knob are shown below.



(a) Choose a suitable material for the knob and give **one** reason for your choice.

material

reason

.....[2]

(b) The knob is to be made on the lathe from a solid piece of material Ø40 x 60.

Using notes and sketches describe how it would be:

(i) held for turning;

[5]

(ii) reduced to overall size;

[5]

(iii) reduced to shape;

[5]

(iv) reduced to length.

[5]

(c) Describe with the aid of sketches how the finger grooves indicated would be:

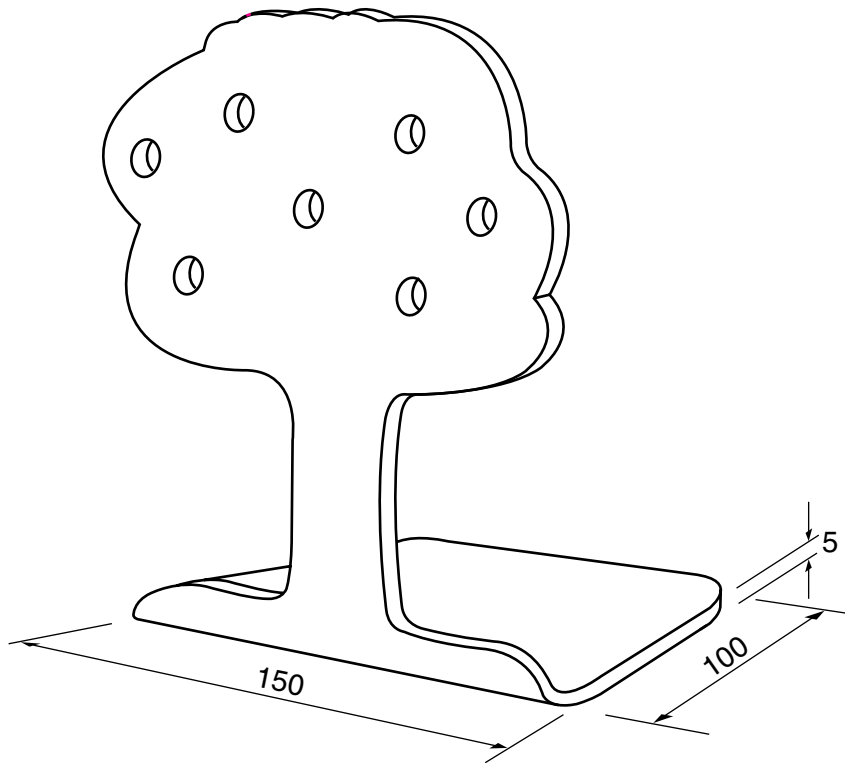
(i) marked out on the turned knob;

[4]

(ii) cut out.

[4]

4 A design for a plastic bookend is shown below.



(a) Give **two** reasons why acrylic sheet would be a suitable material for the bookend.

reason 1

reason 2[2]

(b) Give **two** methods of marking out on acrylic sheet.

method 1

method 2[2]

(c) Sketch and name **two** tools that would be used to cut out the outline shape of the bookend.

Tool 1

Name:

[6]

Tool 2

Name:

[6]

(d) Using notes and sketches describe the following stages of forming the right angle bend:

(i) heating;

[4]

(ii) handling;

[4]

(iii) bending.

[4]

(e) Describe how the edges of the acrylic would be finished.

.....

.....

.....

.....[2]

