

FOR OFFICIAL USE

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F

Q1		Q4	
Q2		Q5	
Q3		Q6	

Total

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0600/27/01

NATIONAL
QUALIFICATIONS
2012

THURSDAY, 17 MAY
9.00 AM – 10.00 AM

**CRAFT AND DESIGN
STANDARD GRADE**
Foundation Level

Fill in these boxes and read what is printed below.

Full name of centre

--

Town

--

Forename(s)

--

Surname

--

Date of birth

Day Month Year

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Scottish candidate number

--	--	--	--	--	--	--	--	--	--

Number of seat

--

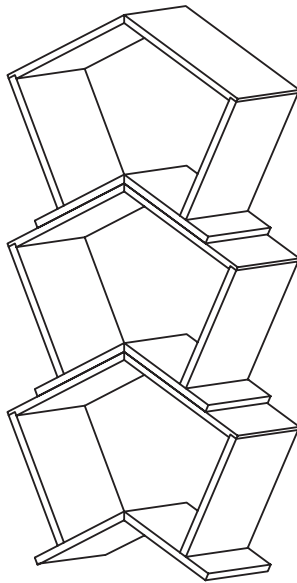
- 1 Answer all the questions.
- 2 Read every question carefully before you answer.
- 3 Write your answers in the spaces provided.
- 4 Do **not** write in the margins.
- 5 All dimensions are given in millimetres.
- 6 Before leaving the examination room you must give this book to the Invigilator. If you do not, you may lose all the marks for this paper.



ATTEMPT ALL QUESTIONS

DO NOT
WRITE
IN THIS
MARGIN

1. A storage system is shown below.



(a) The storage system is made from manufactured board.

(i) From the list below select a suitable manufactured board.

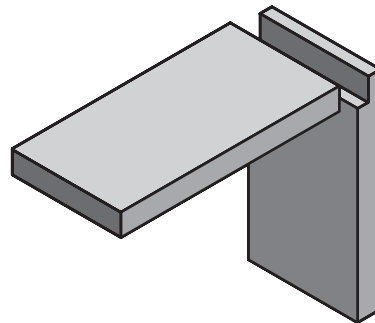
Oak Beech MDF Red wood Pine

1
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(ii) The joint shown below was used in the manufacture of the storage system.

Tick (✓) the name of the joint.

- Lap
- Halving
- Dowel
- Housing



1
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(iii) Panel pins were used in the manufacture of the storage system.

Tick (✓) the sketch of a panel pin.

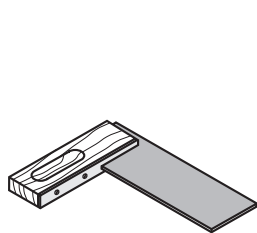


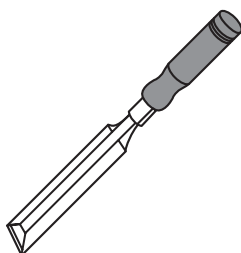
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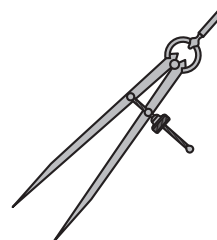
1. (continued)

(b) **Three** of the tools shown below were used to manufacture the joints.

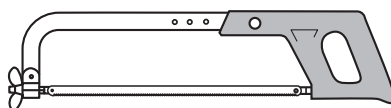
Tick (✓) the tools used.

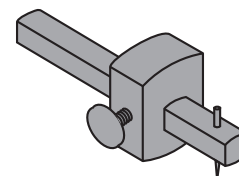












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(c) A white wood glue was used during the manufacture of the storage system.

(i) Tick (✓) the name of this glue.

- PVA
- Epoxy resin
- Super glue
- Impact

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(ii) State how excess glue was removed from the joints.

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(iii) From the list below, select a suitable **coloured** finish for the storage system.

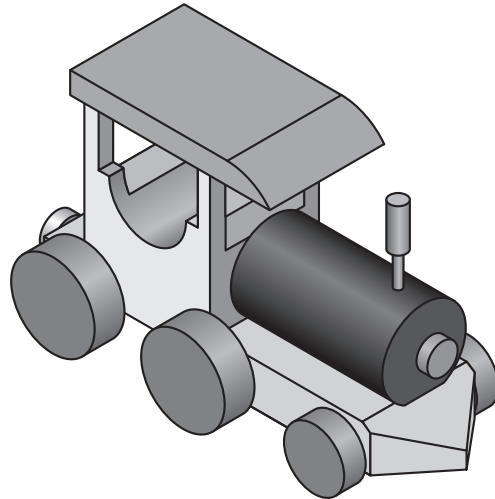
Clear varnish **Paint** **Wax** **Oil**

Coloured finish _____

1
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[Turn over

2. A toy train is shown below.



(a) The following factors were considered when designing the toy train.

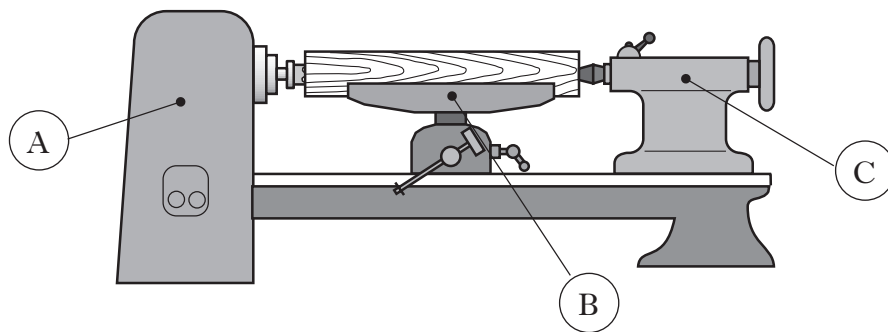
Manufacture Cost Safety Colour Environment

Select from the list above:

1 the factor which ensures no sharp edges; _____

2 the factor which makes the train look good. _____

(b) Part of the train was manufactured using the machine shown below.



(i) State the name of this machine.

(ii) Name the parts shown at (A), (B) and (C) using the list below.

Tool rest Driving fork Headstock Tailstock Revolving centre

(A) _____

(B) _____

(C) _____

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1
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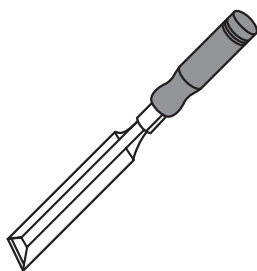
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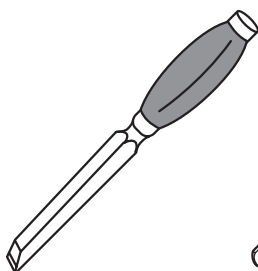
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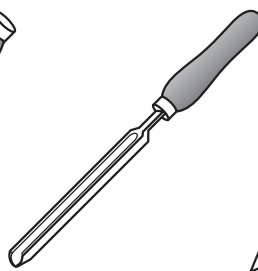
2. (continued)

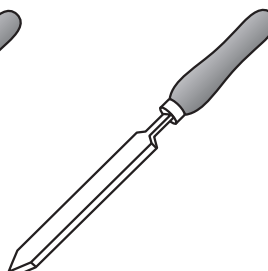
(c) A parting chisel was used during the manufacture of the train.

Tick (✓) the sketch of the parting tool.





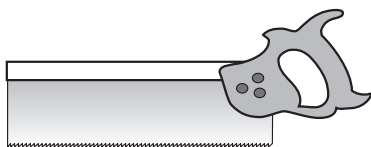




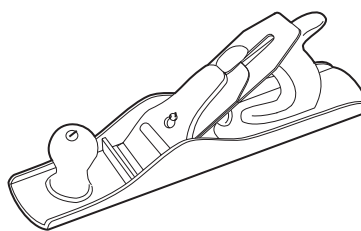
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(d) The tools shown below were used during the manufacture of the train.

State the name of each tool.



Name _____



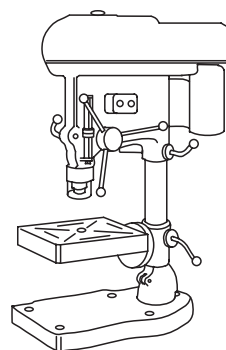
Name _____

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(e) The machine shown below was used during the manufacture of the toy train.

(i) Tick (✓) the name of the machine.

- Twist drill
- Pedestal drill
- Countersink drill
- Hand drill



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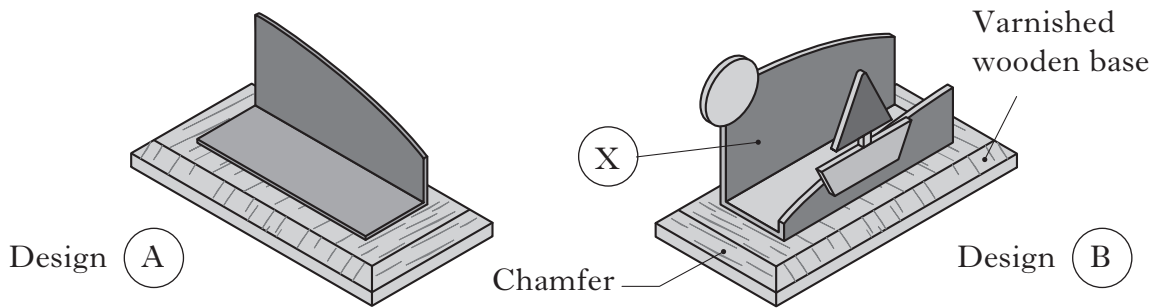
(ii) State **two** safety rules which should be followed when using the machine above.

1 _____

2 _____

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1
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3. Two letter rack designs are shown below.



(a) Identify a fault with design (A).

Fault _____

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(b) Part (X) was made from acrylic.

(i) Tick (✓) the name of this type of plastic.

- Ferrous
- Plastic laminate
- Thermo plastic
- Thermo setting plastic

1
0

(ii) Tick (✓) the **two** statements that best describe acrylic.

- Acrylic is only available in two colours
- Acrylic can be reheated and re-shaped
- Acrylic is difficult to scratch
- Acrylic is water proof
- Acrylic can be bent when cold

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(iii) Acrylic can crack easily when drilled.

Tick (✓) a method that could reduce the risk of cracking.

- Support the acrylic on a piece of wood
- Keep the protective cover on the acrylic
- Mark with centre punch
- Drill quickly

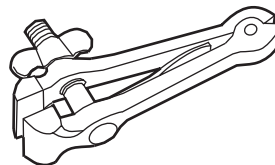
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3. (b) (continued)

(iv) The tool shown was used to hold the acrylic when drilling.

Tick (✓) the name of this tool.

- Bench vice
- Machine vice
- Engineer's vice
- Hand vice



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(c) A list of tools is given below.

Brush Plane Hacksaw Coping saw Tenon saw

From this list, select the tool used to:

- 1 chamfer the wooden base; _____
- 2 cut the curve on the plastic; _____
- 3 apply the varnish. _____

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(d) Stages in the finishing of the edges of acrylic are listed in the wrong order.

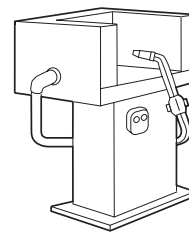
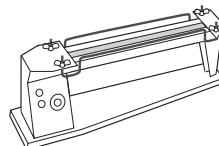
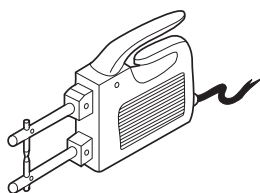
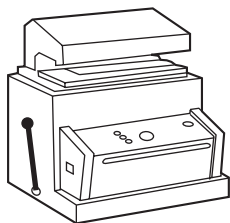
Tick (✓) the stage completed first.

- Polish edges
- Draw file
- Cross file
- Smooth with wet and dry

1
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(e) In design (B) the acrylic was heated before bending.

Tick (✓) the sketch of the machine used.



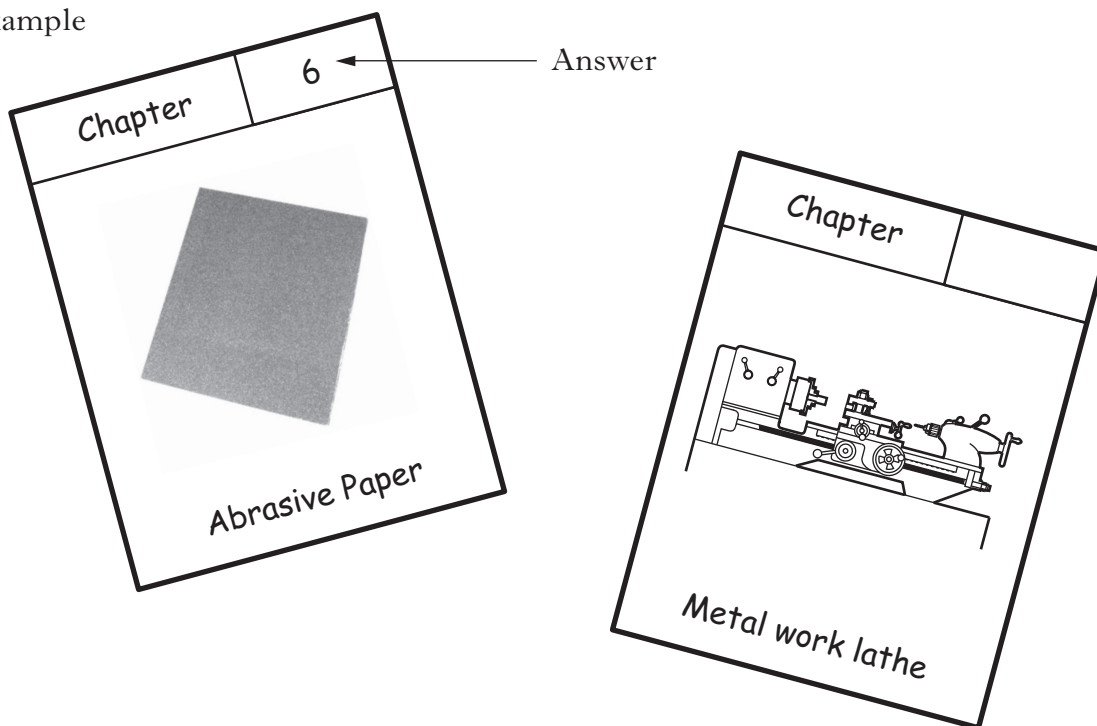
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4. A contents page from a Craft and Design revision book is shown.

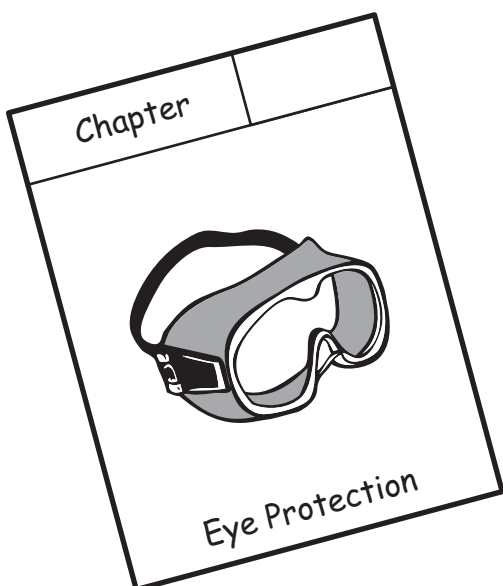
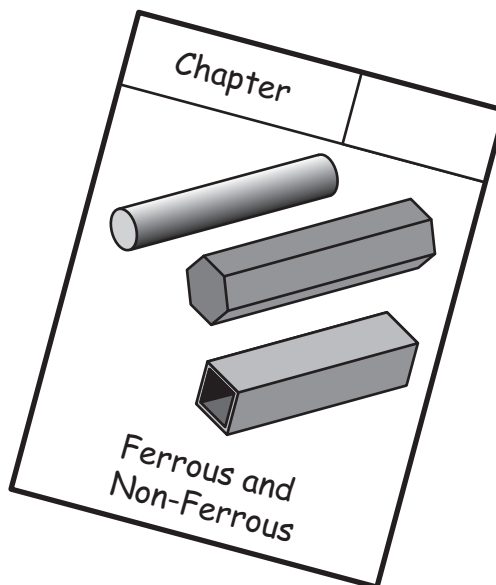
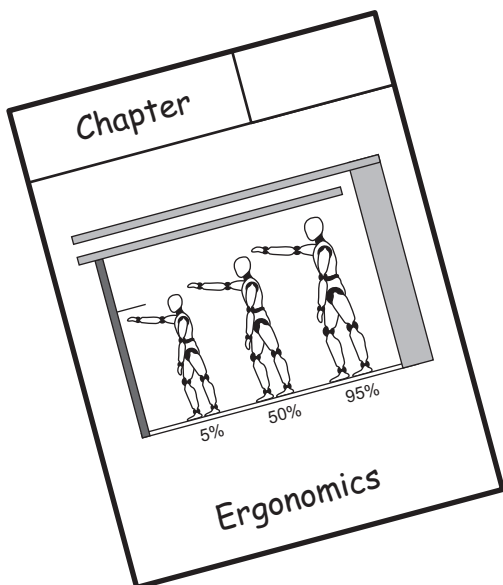
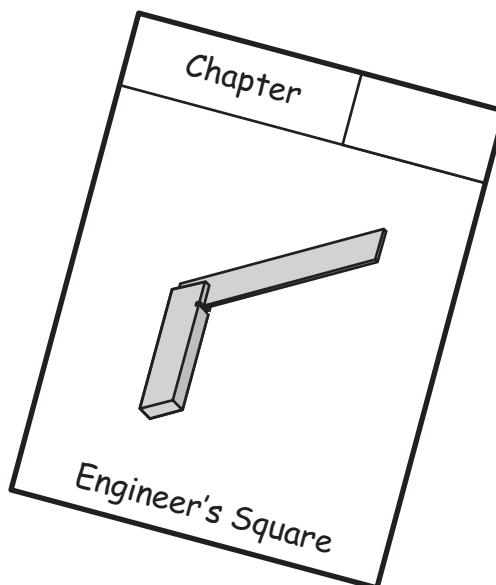
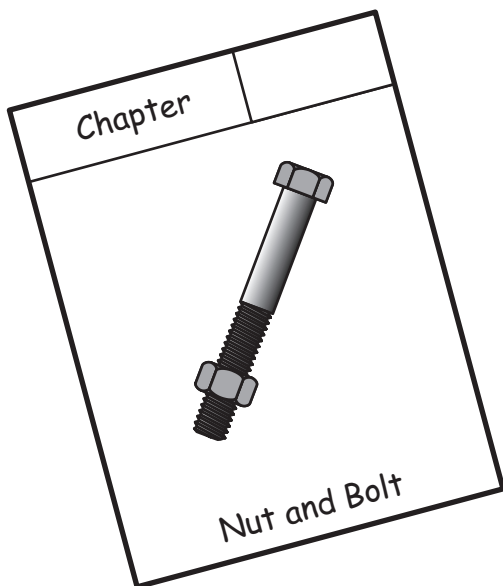
Contents	
Chapter 1	Design knowledge
Chapter 2	Materials and their properties
Chapter 3	Joining materials
Chapter 4	Hand tools
Chapter 5	Machine tools
Chapter 6	Preparation and applying a finish
Chapter 7	Safety

A sample page from each of the chapters is shown. Write the chapter number at the top of each page using the contents page above. An example has been completed for you.

Example



4. (continued)



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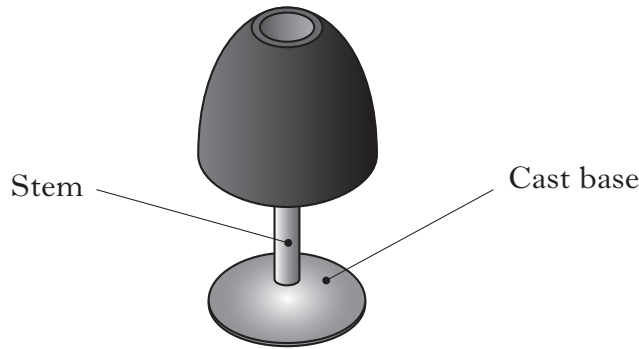
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5. A lamp is shown below.



(a) The base of the lamp was heavy. State a reason for the heavy base.

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(b) The base was made from a silver coloured metal which does not rust.

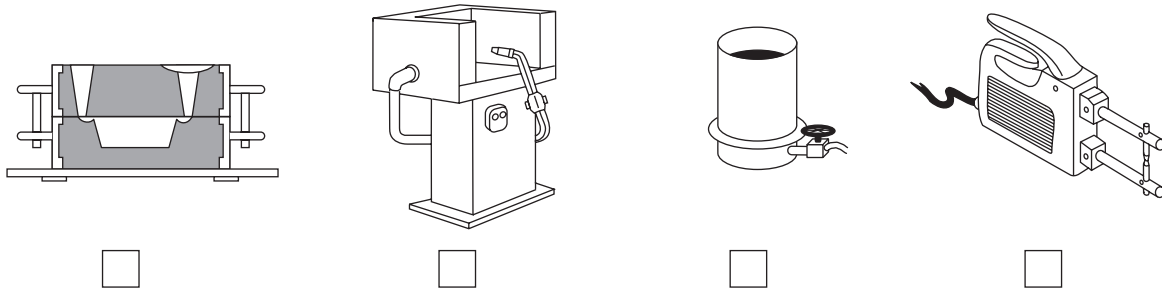
(i) Tick (✓) the name of this metal.

- Brass
- Mild steel
- Aluminium
- Copper

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(ii) The metal base was cast.

Tick (✓) the sketch of the casting equipment.



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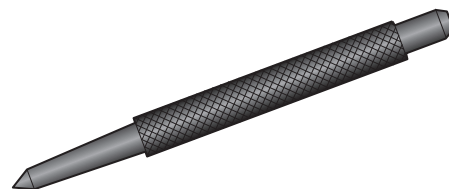
(iii) When casting hot metal, state **one** safety rule that must be followed.

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0

(c) During the manufacture of the lamp the tool shown below was used.

(i) Tick (✓) the name of this tool.

- Nail punch
- Bradawl
- Needle file
- Centre punch



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5. (c) (continued)

(ii) Tick (✓) the reason for using this tool when drilling.

- Allows the hole to be drilled quicker
- Stops the drill from slipping
- Keeps the drill sharp
- Allows large diameter holes to be drilled

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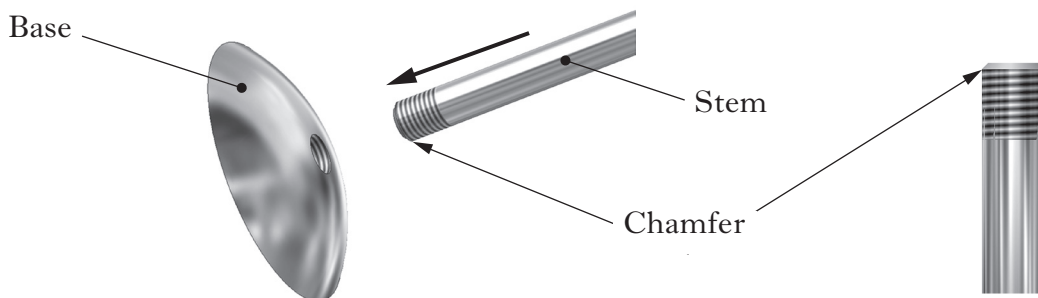
(iii) The drill bit shown below was used during the manufacture of the lamp.
Tick (✓) the name of the drill bit.

- Twist
- Flat
- Fostner
- Rose



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0

(d) The base and the stem were threaded.



Using the list below answer the following questions.

Screwdriver Tap File Knurling tool Die

State the tool used to:

(i) create the chamfer on the stem;

1
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(ii) cut the thread on the stem;

1
0

(iii) cut the thread in the base.

1
0

6. A pupil designed a shelving unit.

(a) The shelving unit **must** be made from a single length of manufactured board.

(i) Tick (✓) the stage in the design process where the above statement would appear.

- Solution
- Aesthetics
- Specification
- Modelling

1
0

(ii) The items to be displayed were measured.

Tick (✓) the stage in the design process where this would take place.

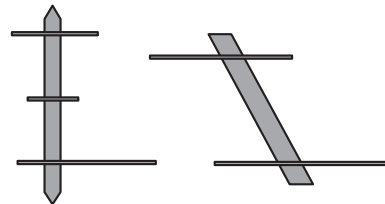
- Brief
- Method of manufacture
- Cutting list
- Research

1
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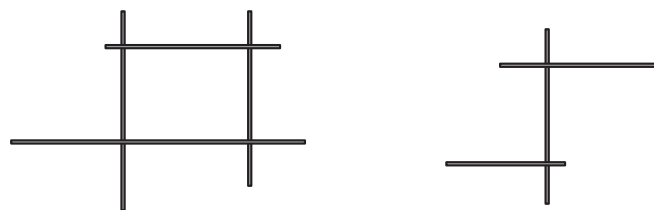
(iii) The sketches shown below were taken from the pupil's folio.

Tick (✓) the stage in the design process where these would appear.

- Working drawing
- Initial ideas
- Presentation drawing
- Statement of problem



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6. (a) (continued)

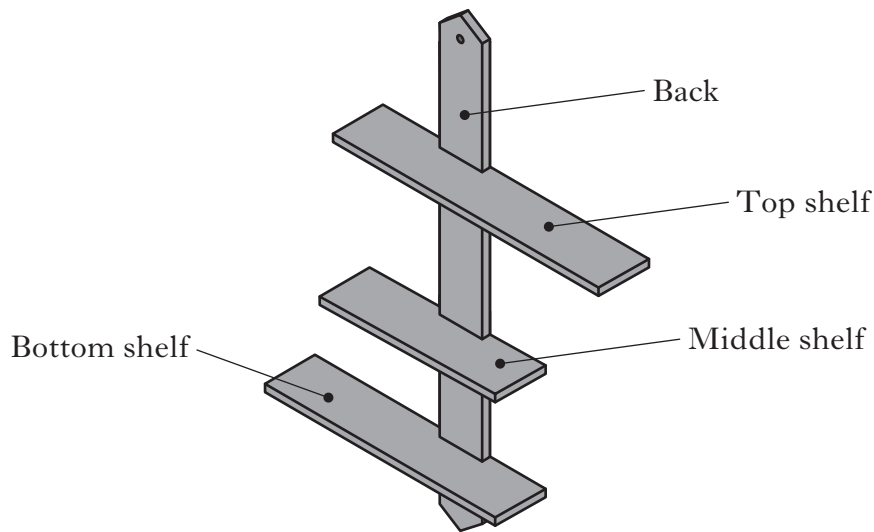
(iv) The shelving unit was tested.

Tick (✓) the stage in the design process where testing would take place.

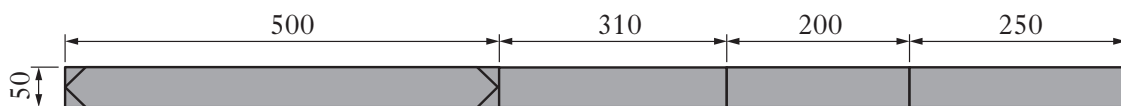
- Developed ideas
- Evaluation
- Analysis
- Ergonomics

1
0

(b) The pupil's final design for the shelving unit is shown below.



The material for the shelving unit was marked out as shown below.



Complete the cutting list shown below.

Part	Material	Quantity	Length	Width	Thickness
	Manufactured board	1	500	50	10
Top shelf	Manufactured board	1	310	50	10
Middle shelf	Manufactured board	1		50	10
Bottom shelf	Manufactured board	1	250		10

1
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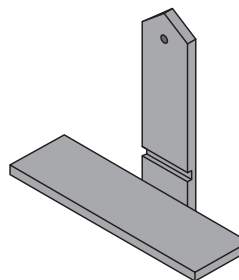
1
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6. (continued)

(c) The joint shown below was used in the manufacture of the shelving unit.

Tick (✓) the name of this joint.

- Butt
- Through housing
- Mortise and Tenon
- Stopped Housing

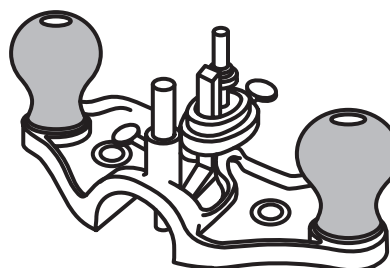


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(d) The tool shown was used during the manufacture of the shelving unit.

(i) Tick (✓) the name of this tool.

- File
- Chisel
- Marking gauge
- Hand router



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(ii) From the list below select the use of this tool.

Measuring joint Sanding joint Levelling joint Sawing joint

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(e) Pencil marks were removed from the shelving unit before applying a finish.

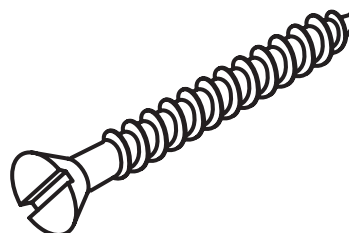
State how the pencil marks could be removed.

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(f) The screw shown was used to fix the shelving unit to a wall.

Tick (✓) the name of this type of screw.

- Round head
- Raised head
- Countersunk head
- Pan head



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[END OF QUESTION PAPER]

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