

FOR OFFICIAL USE

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Q1		Q5	
Q2		Q6	
Q3		Q7	
Q4		Q8	

Total

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0600/401

NATIONAL
QUALIFICATIONS
2011

FRIDAY, 27 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

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

Scottish candidate number

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Number of seat

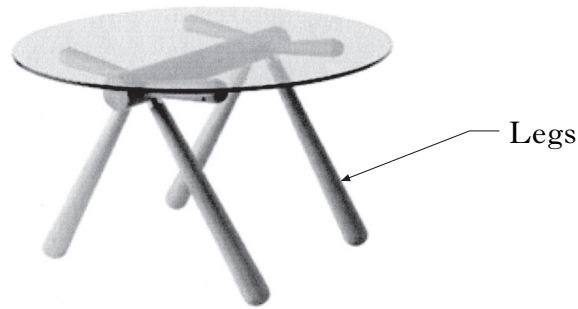
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- 1 Answer all the questions.
- 2 Read every question carefully before you answer.
- 3 Write your answers in the spaces provided.
- 4 Do **not** write in the margins.
- 5 All dimensions are given in millimetres.
- 6 Before leaving the examination room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



ATTEMPT ALL QUESTIONS

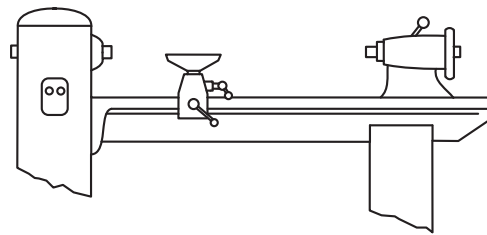
1. A table is shown below.



(a) The machine shown below was used in the manufacture of the table.

(i) Tick (✓) the name of this machine.

- Mortise machine
- Pedestal drill
- Wood lathe
- Sanding machine



1
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(ii) From the list below select the name of the process carried out on the machine above.

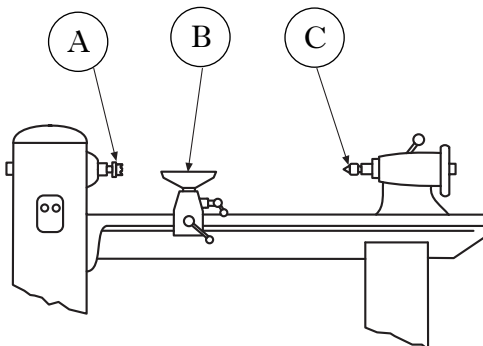
- Mortising Welding Shaping Turning**

Name of process _____

1
0

(iii) From the list given below, name the parts (A), (B) and (C) of the machine.

- Tailstock Revolving centre Headstock**
Toolrest Fork centre



- (A) _____
- (B) _____
- (C) _____

1
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(iv) State **two** safety precautions you should follow when using this machine.

- 1 _____
- 2 _____

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1
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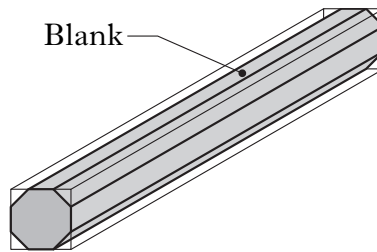
1. (continued)

(b) The table legs are made from a hardwood.

(i) Tick (✓) the name of the hardwood.

- Pine
- Plywood
- Beech
- Hardboard

(ii) The corners of the hardwood blank were removed during the manufacture of the legs.



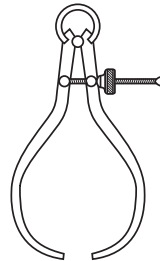
State the name of the tool used to remove the corners.

Tool _____

(iii) The tool shown below was used during the manufacture of the legs.

Tick (✓) the statement which describes what this tool is used for.

- Cutting
- Checking sizes
- Smoothing
- Clamping



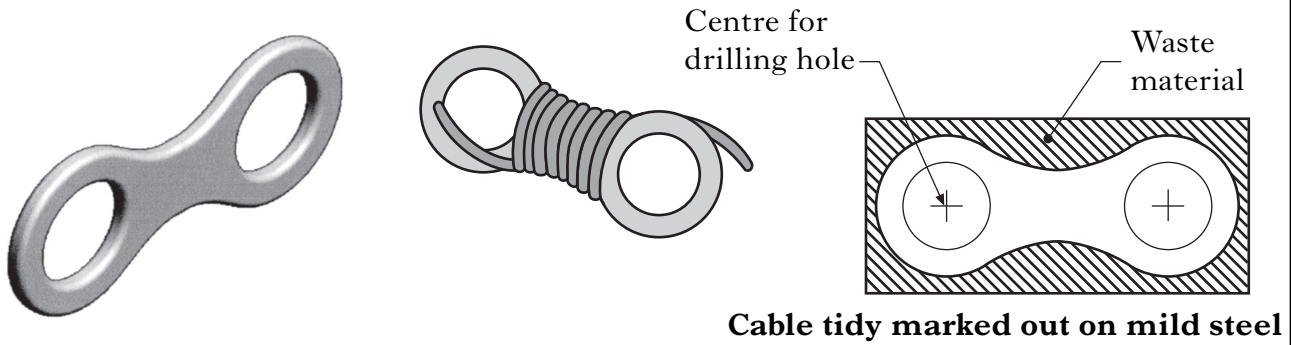
[Turn over

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2. A cable tidy is shown below.



Cable tidy marked out on mild steel

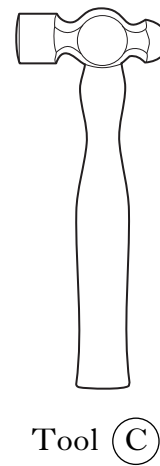
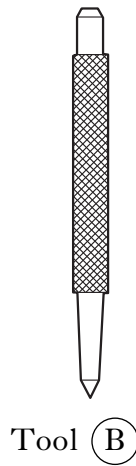
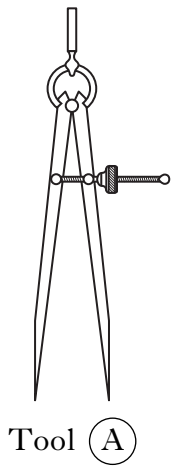
The cable tidy is manufactured from mild steel.

(a) Mild steel is a ferrous metal.

Tick (✓) the statement which best describes a ferrous metal.

- It does not rust
- It does not conduct electricity
- It is a golden colour
- It contains iron and is magnetic

(b) The tools shown below were used during the manufacture of the cable tidy.



Spring dividers
Centre punch

Scriber
Ball peen hammer

Odd leg callipers
Hide mallet

Select the name of each tool from the list above.

- (i) Tool (A) _____
- (ii) Tool (B) _____
- (iii) Tool (C) _____

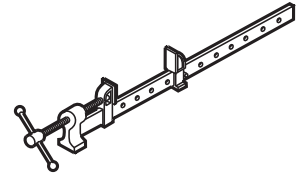
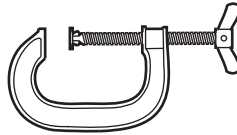
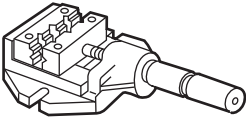
1
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2. (continued)

(c) A hand vice was used when drilling.

Tick (✓) the sketch of the hand vice.



1
0

(d) The mild steel was plastic dip coated.

Several steps in the plastic dip coating process are listed below in the **wrong** order.

- Remove from the fluidiser and allow to cool
- Clean the metal to remove grease and dirt
- Dip the metal into the fluidiser tank
- Heat the metal in an oven

(i) State which step is carried out **first**.

1
0

(ii) State which step is carried out **last**.

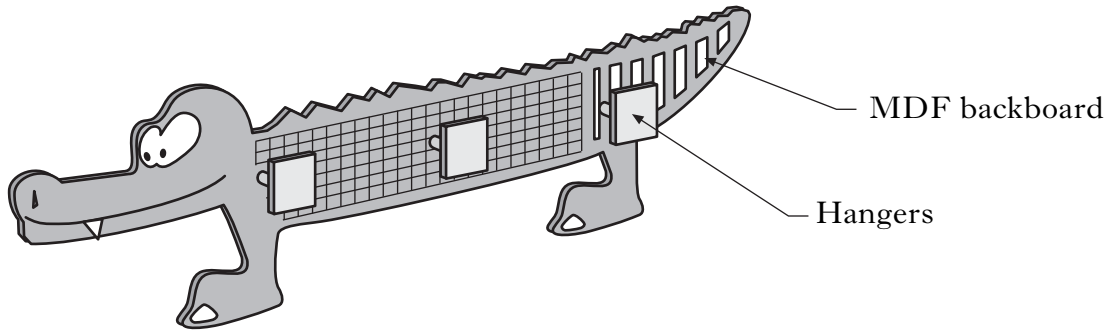
1
0

(iii) Other than plastic dip coating, state another finish that could be applied to the mild steel.

1
0

[Turn over

3. A coat hanger for a child's room is shown below.



(a) Some stages in a design process are listed below.

Brief	Evaluation	Sequence of operations
Ideas	Cutting list	Specification

Select the stage from the list where you find:

(i) a report on how easy it was to use the coat hanger;

Stage _____

1
0

(ii) a table of materials, sizes and quantities;

Stage _____

1
0

(iii) a short statement of what the problem is;

Stage _____

1
0

(iv) a range of possible designs;

Stage _____

1
0

(v) instructions for making the coat hanger.

Stage _____

1
0

(b) Select and write down from the list below, the **two** most important reasons for choosing MDF for the shaped backboard.

- Available in a range of bright colours
- Has an aesthetic natural grain
- Easy to cut into shape
- Can be reshaped when reheated
- Smooth surface to paint on

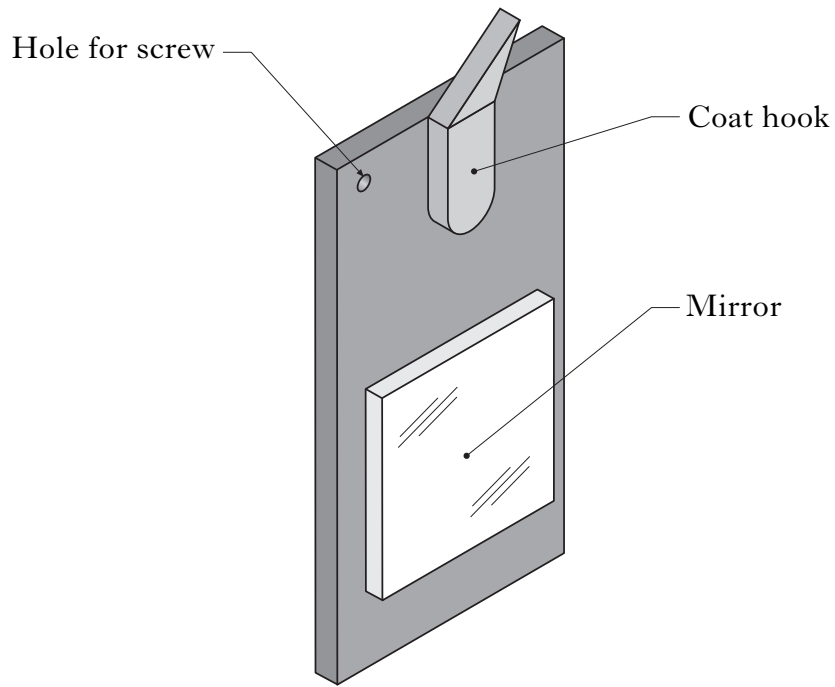
1 _____

1
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2 _____

1
0

4. A pupil's design for a wall mounted coat hook and mirror is shown below.



List **three** faults in the above design.

Fault 1 _____

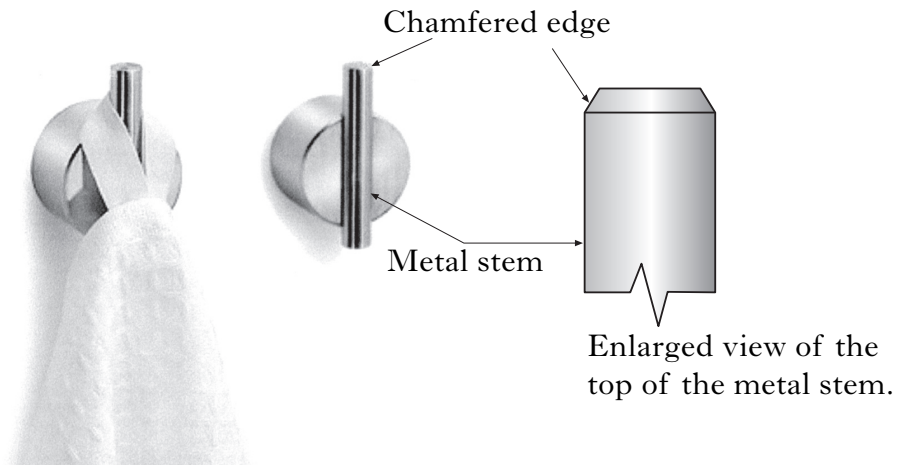
Fault 2 _____

Fault 3 _____

1
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1
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1
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[Turn over

5. A towel holder is shown below.



(a) The stem was made from a silver coloured metal that does not rust.
Tick (✓) the name of this metal.

- Aluminium
- Brass
- Mild steel
- Copper

1
0

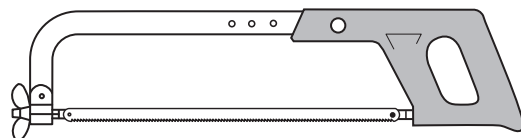
(b) (i) The top of the towel holder is chamfered.
Tick (✓) the reason for this chamfer.

- To stop the towel falling
- Ease of manufacture
- Safety
- Create a shiny finish

1
0

(ii) The tool shown below was used to cut the metal stem.
Tick (✓) the name of this tool.

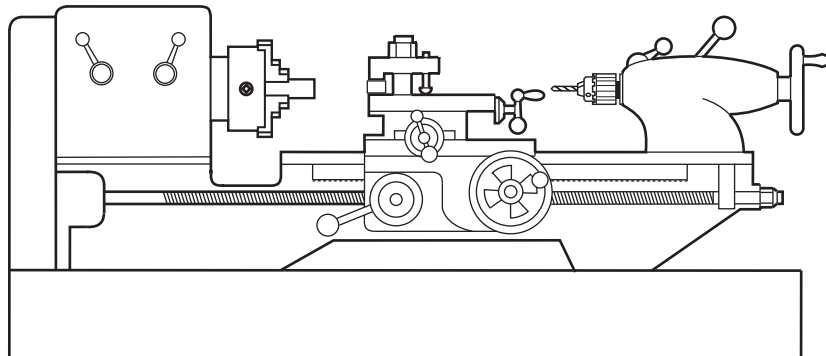
- Coping saw
- Panel saw
- Hacksaw
- Tenon saw



1
0

5. (continued)

(c) The machine shown below was used in the manufacture of the towel holder.



The guard has been removed for clarity.

(i) State the name of this machine.

1
0

(ii) State **two** checks which should be made to this machine before switching it on.

Check 1 _____

1
0

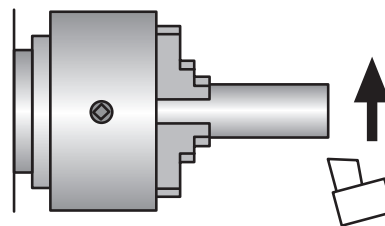
Check 2 _____

1
0

(d) The process shown below was used in the manufacture of the towel holder.

Tick (✓) the name of this process.

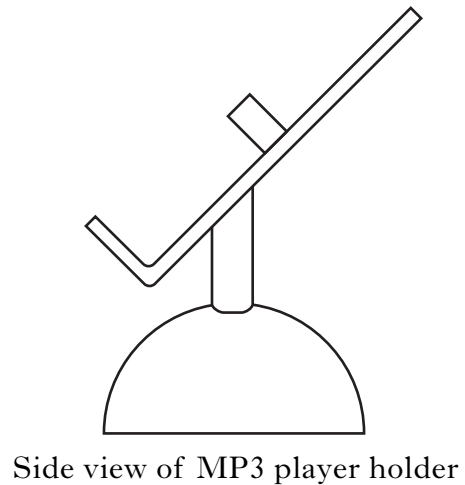
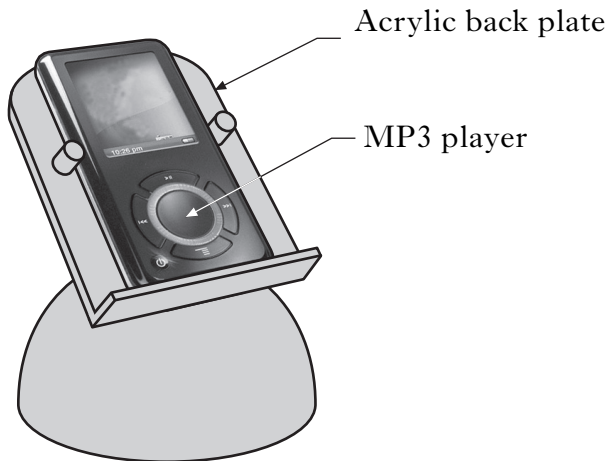
- Facing
- Knurling
- Tapering
- Parting



1
0

[Turn over

6. An acrylic holder for an MP3 player is shown below.



(a) Acrylic is a thermoplastic.

Tick (✓) the statement which describes a thermoplastic.

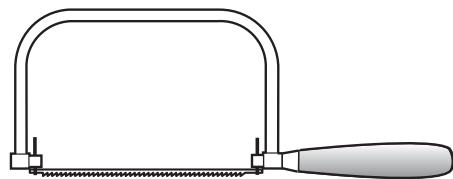
- It can be re-heated and bent again
- It rusts when left outside
- It conducts electricity
- It is magnetic

1
0

(b) Select the name of the tool shown from the list given below.

Tenon saw Coping saw Jigsaw Junior hacksaw

Tool name _____

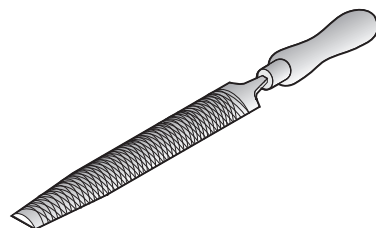


1
0

(c) Select the name of the file shown from the list given below.

Square Half round Needle Round

File name _____



1
0

6. (continued)

(d) The stages for finishing the edges of acrylic are given below in the **wrong order**.

- Use wet and dry paper to smooth the edges
- Polish edges
- Draw file all the edges
- Cross file all the edges

(i) State which stage was completed **first**.

1
0

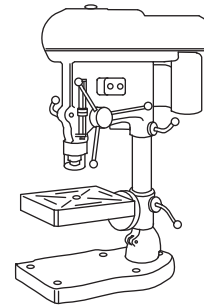
(ii) State which stage was completed **last**.

1
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(e) The machine shown below was used during the manufacture of the MP3 player holder.

Tick (✓) the name of this machine.

- Hand drill
- Brace
- Pedestal drill
- Mortise machine



1
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(f) Acrylic can crack easily when drilling.

Tick (✓) a method that could prevent cracking.

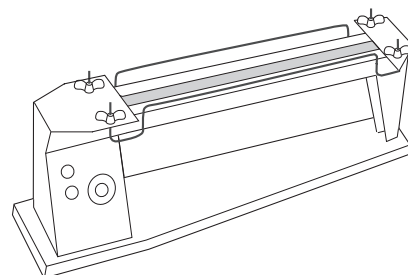
- Drill quickly
- Support the acrylic with a piece of wood
- Keep the protective cover on the acrylic
- Mark with a centre punch

1
0

(g) The machine shown below was used during the manufacture of the MP3 player holder.

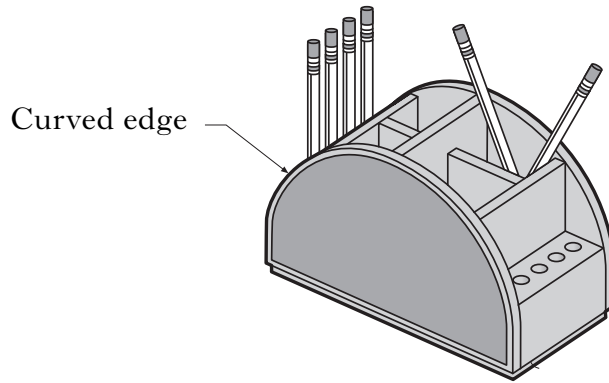
Tick (✓) the name of this machine.

- Forge
- Strip heater
- Arc welder
- Oven



1
0

7. A wooden desk tidy is shown below.



(a) Select and write down from the list below, the **two** most important pieces of information when designing the desk tidy.

- The colour of pencils
- The size of pencils
- The number of pencils
- The cost of the pencils
- The sharpness of the pencils

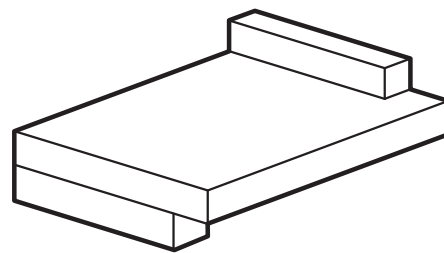
1 _____

2 _____

(b) The following tool was used in the manufacture of the desk tidy.

Tick (✓) the name of this tool.

- Sawing board
- Jig
- Former
- Template



(c) Select and write down from the list below, the machine used to finish the curved edge of the desk tidy.

Jigsaw Bandsaw Fluidiser Sander

Machine name _____

1
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1
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1
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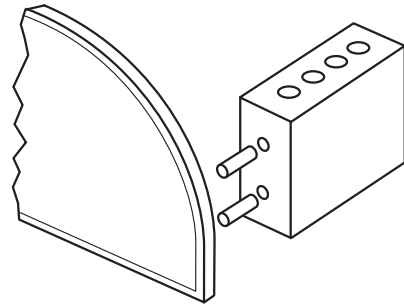
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7. (continued)

- (d) (i) The joint shown below was used during the construction of the desk tidy.

Tick (✓) the name of this joint.

- Stopped housing
- Dowel
- Mortise and tenon
- Corner rebate



1
0

- (ii) A white glue was used to glue the joint shown above.

Tick (✓) the name of this glue.

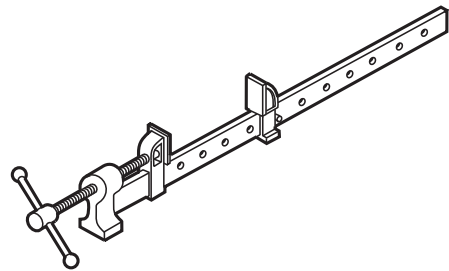
- PVC
- TAP
- PVA
- MDF

1
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- (iii) The tool shown below was used to hold the joint together while the glue set.

Tick (✓) the correct name for this tool.

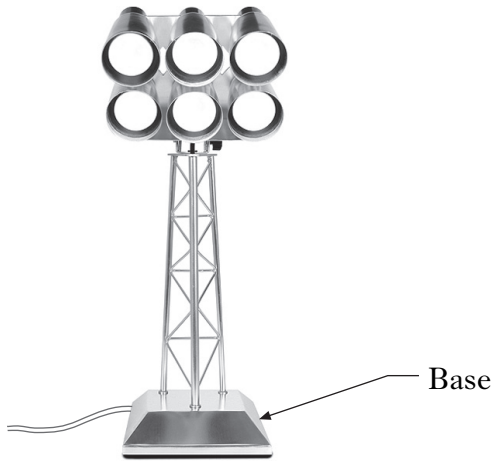
- G-clamp
- Bench vice
- Machine vice
- Sash clamp



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0

[Turn over

8. An advert for a table lamp is shown below.



- Based on football floodlights
- Adjustable swivel head
- Anti-skid, rubber feet
- Strong metal frame
- Easy wipe finish
- Heavy base
- 540 mm height
- Energy efficient bulbs
- 3 year guarantee

(a) Match a claim from the advertisement to each specification as shown in the example below.

Example: Specification – The table lamp should withstand knocks and bumps.

Advert claim – Strong metal frame

(i) Specification – The table lamp should not topple over.

Advert claim – _____

1
0

(ii) Specification – The table lamp should be environmentally friendly.

Advert claim – _____

1
0

(iii) Specification – The table lamp should be easy to clean.

Advert claim – _____

1
0

(iv) Specification – The table lamp must have directional lighting.

Advert claim – _____

1
0

(v) Specification – The table lamp should not slide on a surface.

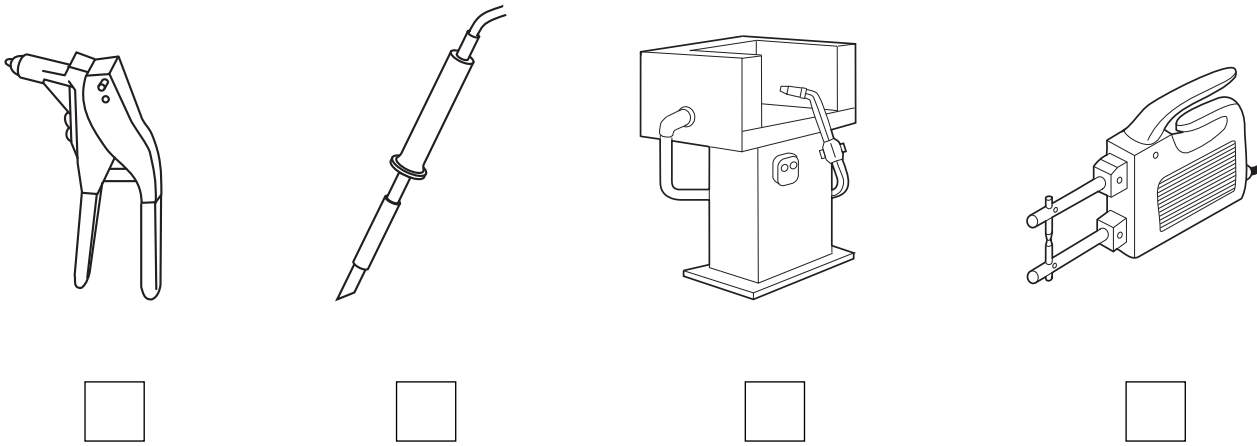
Advert claim – _____

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8. (continued)

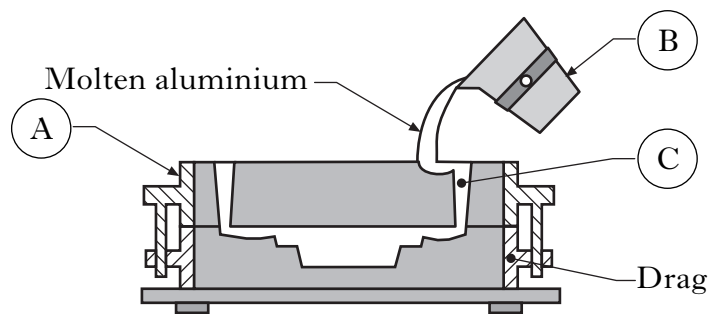
(b) A spot welder was used during the manufacture of the table lamp.

Tick (✓) the sketch of a spot welder.



1
0

(c) The base was made by pouring molten aluminium into a sand mould.



(i) A cross-section of the moulding boxes is shown.

Select the name of the process from the list given below.

Annealing Tempering Casting Blueing

Process _____

1
0

(ii) Some terms related to this process are listed below.

Cope Crucible Riser Runner

Use these terms to complete the statements below.

1 The top box (A) is the _____.

1
0

2 The container (B) is the _____.

1
0

3 The molten aluminium is poured into (C) the _____.

1
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[END OF QUESTION PAPER]

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