

FOR OFFICIAL USE

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**F**

Total

**0600/401**

NATIONAL  
QUALIFICATIONS  
2009

MONDAY, 18 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

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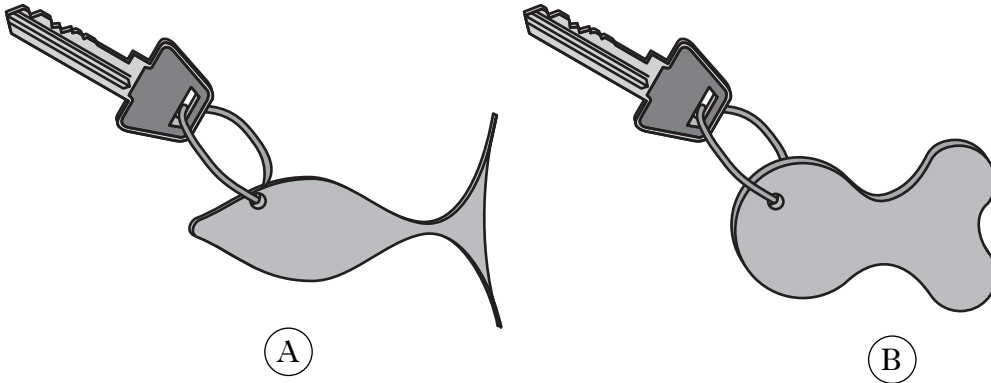
Number of seat

- 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**

1. Two acrylic key tabs are shown below.



(a) List three faults in the design of key tab (A).

- Fault 1 \_\_\_\_\_
- Fault 2 \_\_\_\_\_
- Fault 3 \_\_\_\_\_

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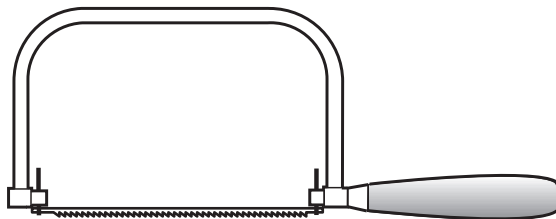
(b) Key tab (B) is made from acrylic. Tick (✓) the name of this type of plastic.

- Alloy
- Plastic laminate
- Thermosetting plastic
- Thermoplastic

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(c) The tool shown was used to cut the outline of key tab (B). Tick (✓) the correct name of this tool.

- Tenon saw
- Jigsaw
- Coping saw
- Hacksaw

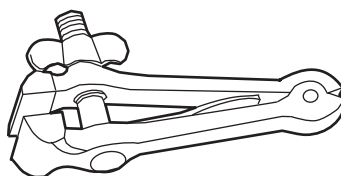


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1. (continued)

(d) The tool shown below was used to hold the acrylic when drilling. Tick (✓) the name of this tool.

- Sash cramp
- G cramp
- Machine vice
- Hand vice



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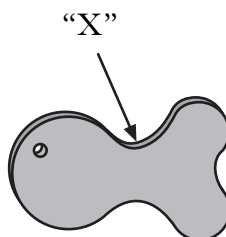
(e) Acrylic can crack easily when drilling. Tick (✓) a method that could prevent cracking.

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

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(f) A file was used to finish edge "X". Tick (✓) the name of a suitable file.

- Abra
- Half round
- Flat
- Square



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(g) The stages for finishing the edge of the acrylic key tab are given below in the **wrong order**.

- Polish
- Cross file
- Use wet and dry paper
- Draw file

(i) State which stage would be completed **first**.

\_\_\_\_\_

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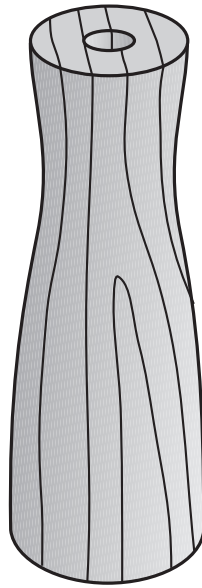
(ii) State which stage would be completed **last**.

\_\_\_\_\_

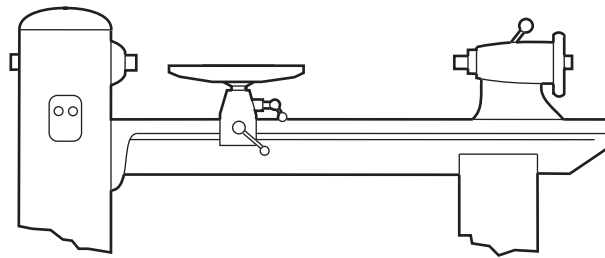
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[Turn over

2. A wooden base for a table lamp is shown below.



(a) (i) The base was manufactured on the machine shown below.



State the name of this machine.

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(ii) Tick (✓) the name of the process carried out by this machine.

- Forging
- Casting
- Turning
- Threading

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2. (continued)

(b) A list of tools used to prepare the wooden blank is given below. From this list write the name of the tool used at each stage.

*Tenon Saw*

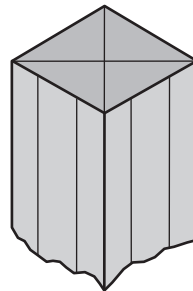
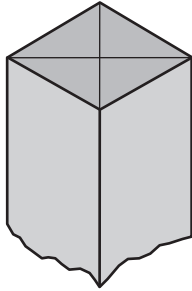
*Marking Gauge*

*Smoothing Plane*

*Rule and Pencil*

**Stage 1 – Mark diagonals**

**Stage 2 – Score line parallel to edges**

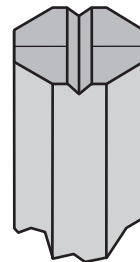
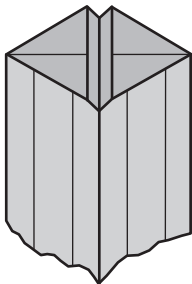


Tool \_\_\_\_\_

Tool \_\_\_\_\_

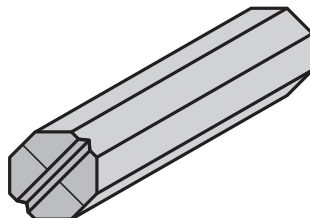
**Stage 3 – Cut vee groove**

**Stage 4 – Remove corners**



Tool \_\_\_\_\_

Tool \_\_\_\_\_



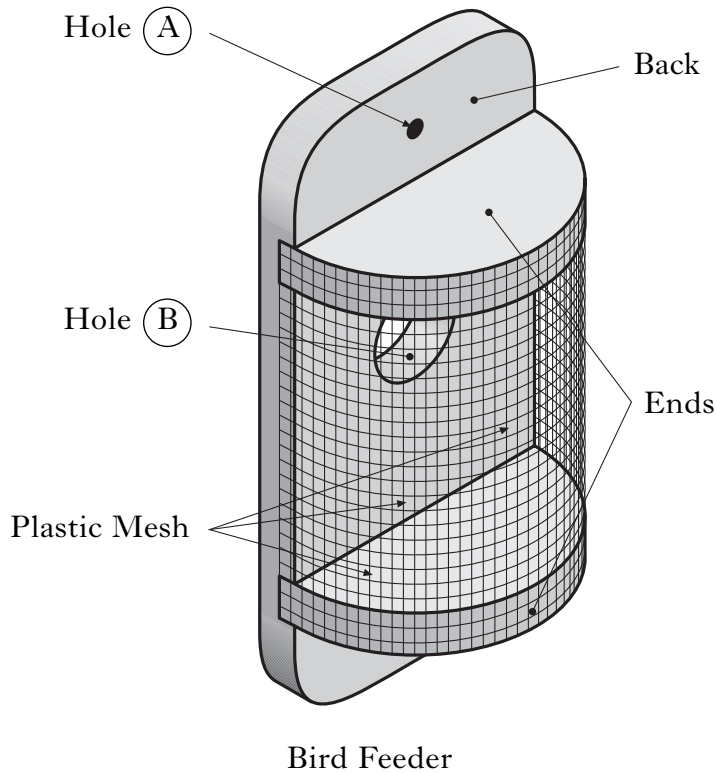
Finished Blank

**[Turn over**

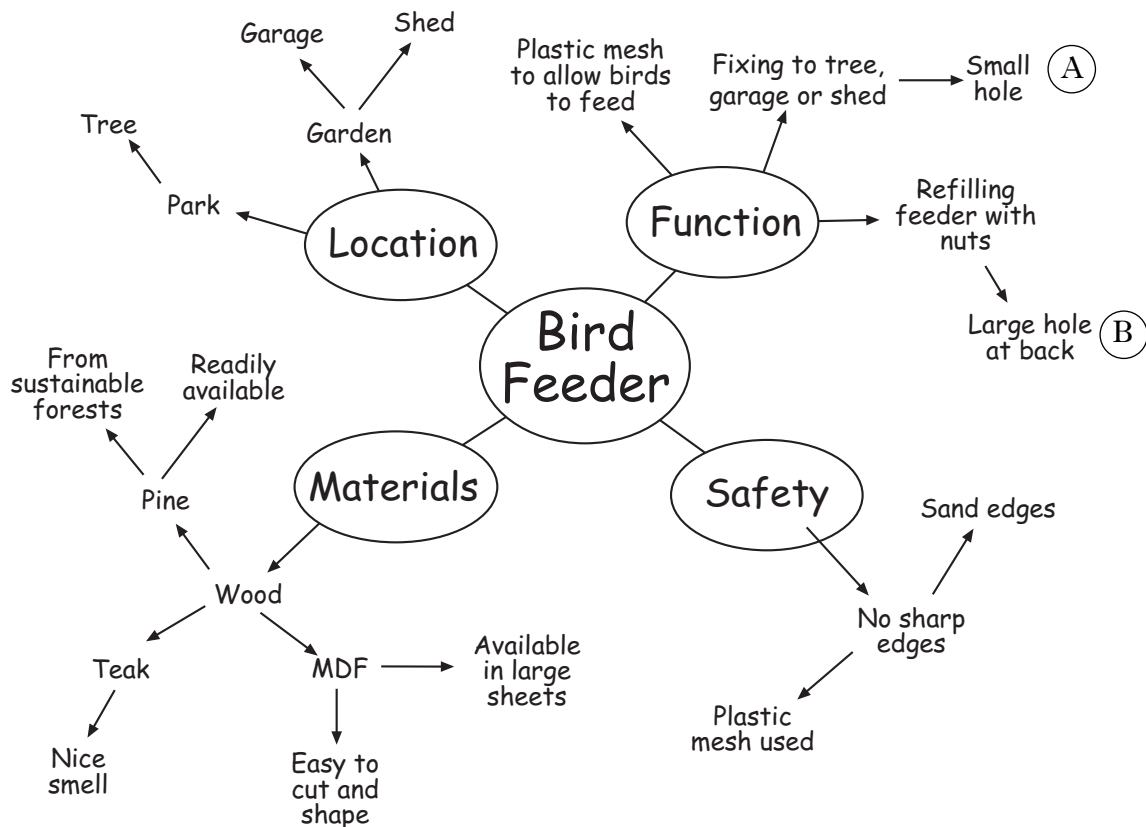
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3. A pupil's design for a bird feeder is shown below.



The following **diagram** was produced when designing the bird feeder.



3. (continued)

(a) Using the information in the **diagram** on the page opposite:

(i) state a suitable **location** within a park for the bird feeder;

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(ii) state **one reason** why pine is a suitable **material**;

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(iii) state a method to ensure there are **no sharp edges** on the **pine**;

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(iv) state the **function** of hole (A) ;

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(v) state the **function** of hole (B) .

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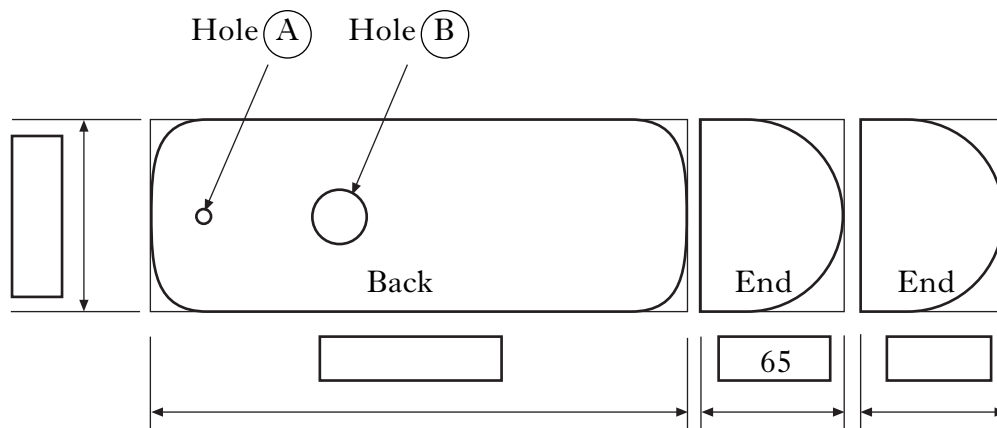
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(b) The cutting list and working drawing for the bird feeder are shown below .

Part	Material	Quantity	Length	Width	Thickness
Back	Pine	1	240	90	18
End	Pine	2	65	18	

Cutting list

Transfer three sizes from the cutting list to the correct boxes on the working drawing. (One has been completed for you.)



Working drawing

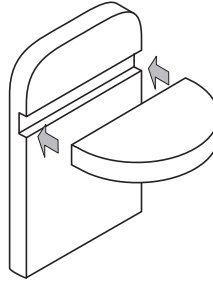
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**3. (continued)**

(c) The joint shown below was used in the manufacture of the bird feeder.

Tick (✓) the name of this joint.

- Dowel
- Stopped housing
- Mortice and tenon
- Through housing

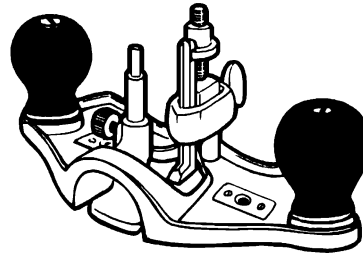


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(d) The tool shown below was used in the manufacture of the bird feeder.

Tick (✓) the name of this tool.

- Saw
- Chisel
- Brace
- Router



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4. Six safety procedures are listed below.

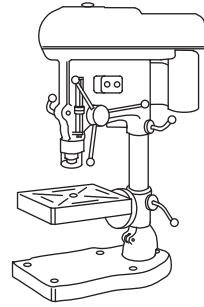
- A. *Wear a leather apron*
- B. *Both hands behind blade*
- C. *Use machine vice to hold material*
- D. *Use tongs to hold material*
- E. *Store in tool rack*
- F. *Ensure safety guard is down*

From the list, state which **two** procedures would be followed when using:

(a) a pedestal drill

1. \_\_\_\_\_

2. \_\_\_\_\_

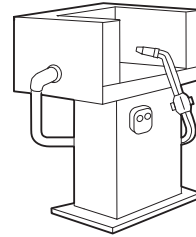


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(b) a forge

1. \_\_\_\_\_

2. \_\_\_\_\_



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(c) a chisel

1. \_\_\_\_\_

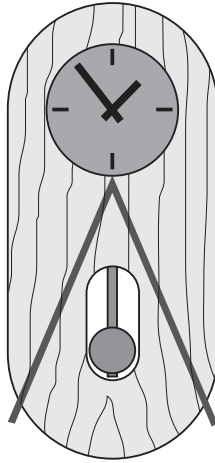
2. \_\_\_\_\_



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[Turn over

5. A clock is shown below.



(a) The design folio for the clock contained the following stages.

- Brief*
- Research*
- Specification*
- Ideas*
- Solution*
- Sequence of operations*
- Evaluation*

At which of the above stages would you find:

- (i) a list of what the clock must do;  
Stage \_\_\_\_\_
- (ii) a report on how well the clock worked;  
Stage \_\_\_\_\_
- (iii) a list of instructions of how to manufacture the clock;  
Stage \_\_\_\_\_
- (iv) a short statement outlining the problem?  
Stage \_\_\_\_\_

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5. (continued)

(b) The following materials were considered during the design process.

*Oak*

*Plywood*

*Copper*

*Pine*

Using the materials listed complete the table below.

Description	Appearance	Material
Manufactured board	Made up of layers of timber	
Softwood	Yellow and knotty	
Non-ferrous metal	Reddish-brown colour	
Hardwood	Close grained timber	

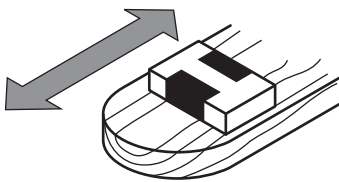
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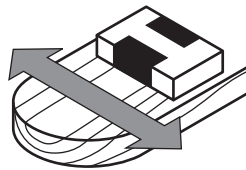
(c) State the name of a **machine tool** that could be used to finish the curved top of the clock.

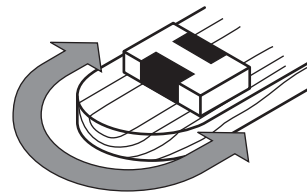
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(d) Abrasive paper was used to remove the pencil marks from the timber.

Tick (✓) the sketch below that shows the correct method.



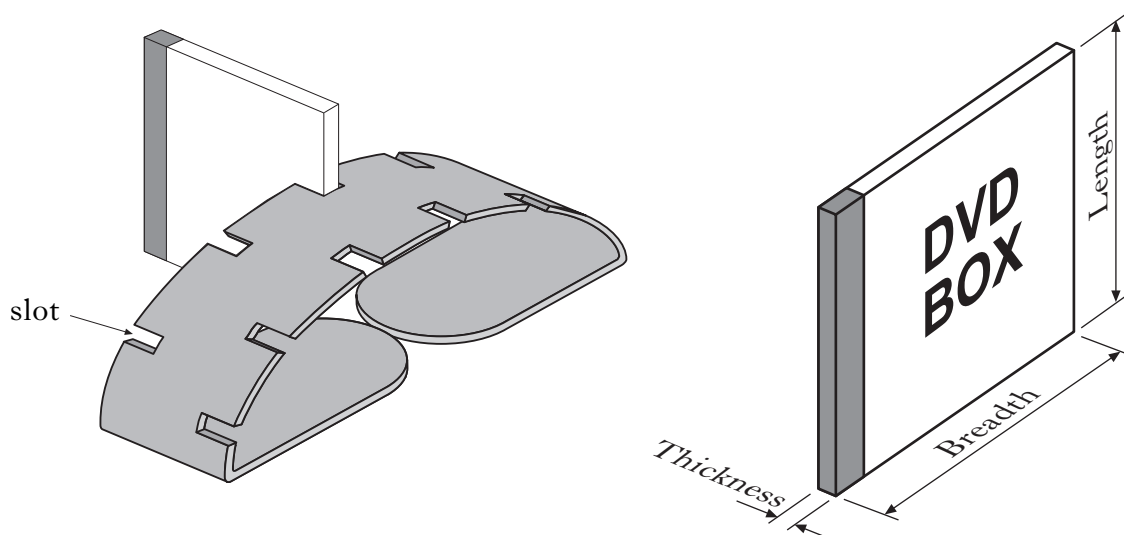





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[Turn over

6. A metal holder for DVD boxes is shown below.



(a) The DVD holder is made from a silver coloured metal that does not rust.

Tick (✓) the name of this metal.

- Mild steel
- Brass
- Cast iron
- Aluminium

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(b) (i) Tick (✓) **one** piece of information that will determine the width of the slots.

- Title of DVD
- Breadth of DVD box
- Thickness of DVD box
- Length of DVD box

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(ii) Tick **one** piece of information that will determine the total number of slots.

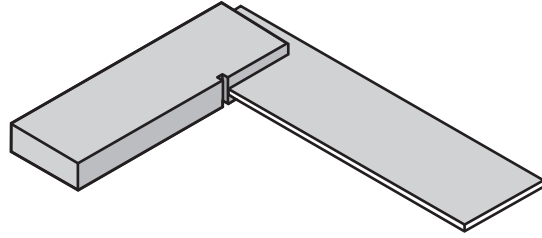
- Breadth of DVD box
- Length of DVD box
- Title of DVD
- Number of DVD boxes to be stored

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**6. (continued)**

(c) The following tools were used in marking out the DVD holder. Tick (✓) the name of each tool.

- (i)  Centre punch
- Nail punch
- Engineer's square
- Scriber



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- (ii)  Odd leg callipers
- Scriber
- Centre punch
- Engineer's square

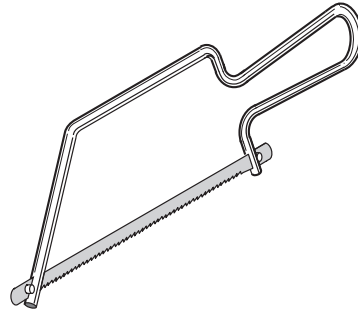


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(d) The following tools were used in the manufacture of the DVD holder.

(i) Tick (✓) the name of this saw.

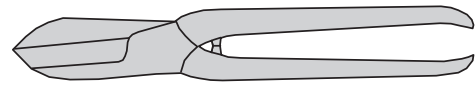
- Coping saw
- Tenon saw
- Bandsaw
- Junior hacksaw



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(ii) State the name of this tool.

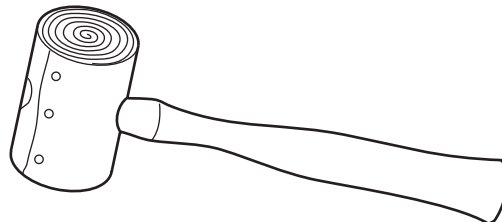
\_\_\_\_\_



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(iii) Tick (✓) the name of the tool used to bend the holder.

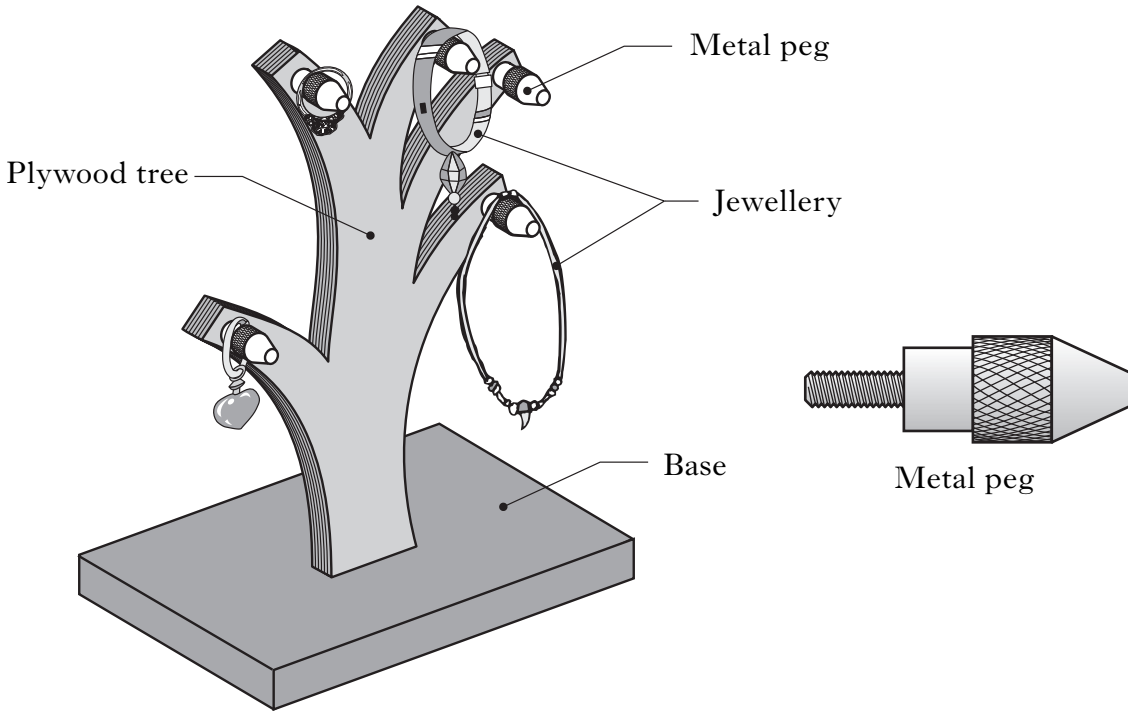
- Ball pein hammer
- Claw hammer
- Hide mallet
- Cross pein hammer



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**[Turn over**

7. A jewellery stand is shown below.



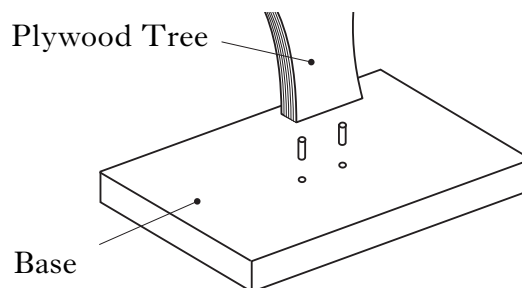
(a) The tree shape was cut from card to help with the marking out. Tick (✓) the name given to this card shape.

- Former
- Template
- Mask
- Jig

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(b) The plywood tree was attached to the base using the joint shown below. Tick (✓) the correct name of this joint.

- Cross halving
- Butt
- Mortise and tenon
- Dowel

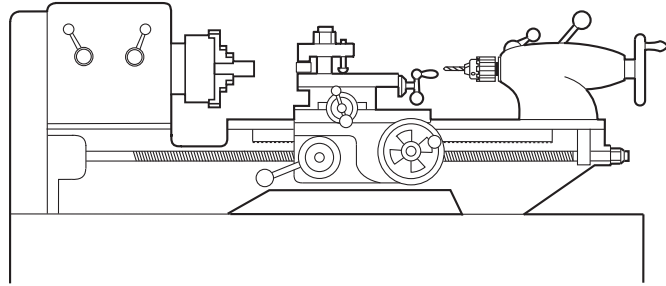


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**7. (continued)**

(c) The pegs were manufactured on the machine shown below. Tick (✓) the name of this machine.

- Metal lathe
- Mortise machine
- Pedestal drill
- Belt sander



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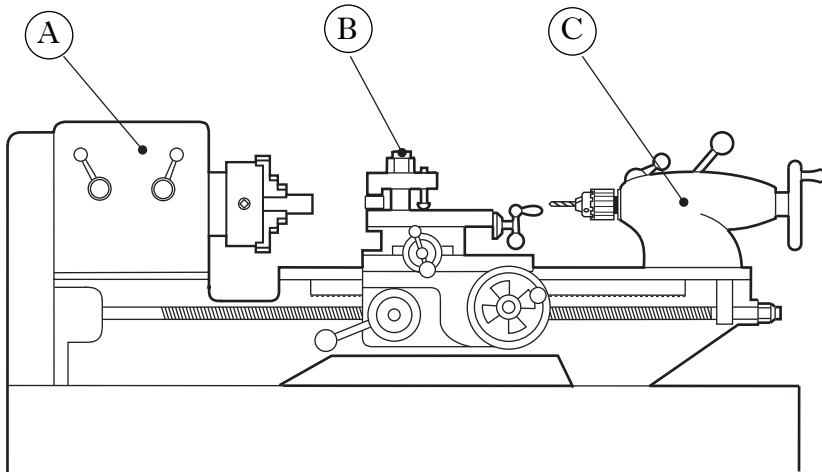
(d) From the list below, name the parts (A), (B) and (C) of the machine.

*Tool post*

*3 jaw chuck*

*Tail stock*

*Head stock*



- (A) \_\_\_\_\_
- (B) \_\_\_\_\_
- (C) \_\_\_\_\_

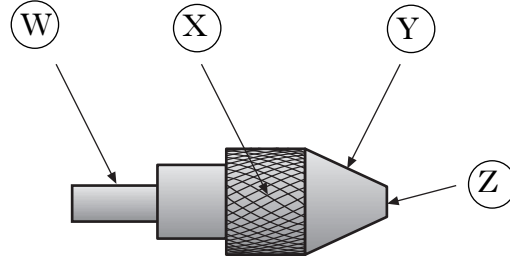
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**[Turn over for Question 7(e) on Page sixteen**

7. (continued)

(e) From the list below, name the processes (W), (X), (Y) and (Z) used in the manufacture of the pegs.

*Facing*      *Knurling*      *Parallel turning*      *Taper turning*



Process (W) \_\_\_\_\_

Process (X) \_\_\_\_\_

Process (Y) \_\_\_\_\_

Process (Z) \_\_\_\_\_

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[END OF QUESTION PAPER]