

FOR OFFICIAL USE

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F

Total

0600/401

NATIONAL
QUALIFICATIONS
2008

WEDNESDAY, 14 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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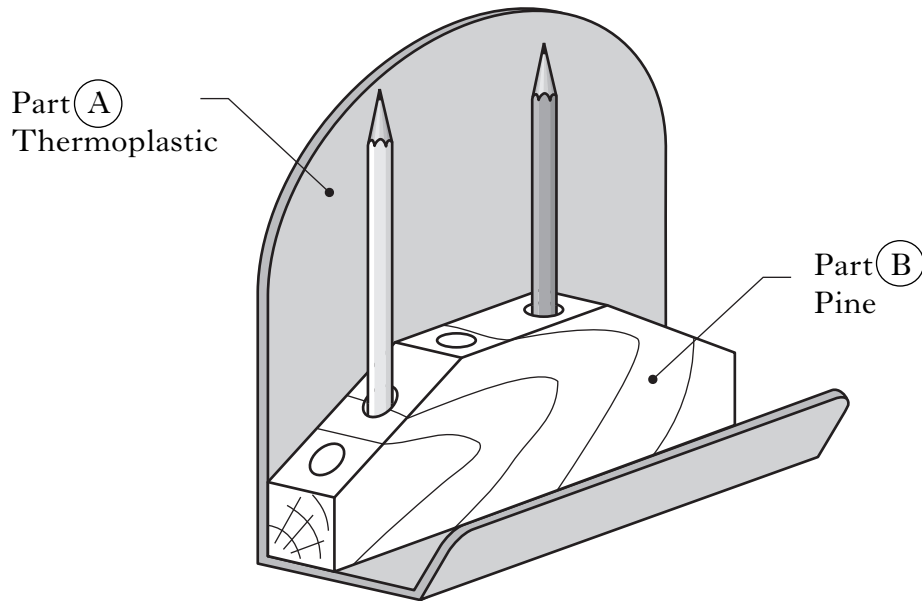
Number of seat

- 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. A desk tidy is shown below.



(a) Part (A) is made from a coloured thermoplastic.

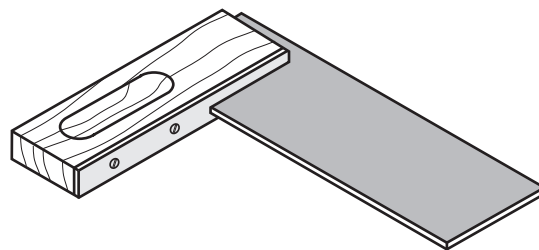
Tick (✓) the name of this material.

- Mild steel
- Red pine
- Acrylic
- Plywood

(b) The following tools were used in the manufacture of the desk tidy.

(i) Tick (✓) the name of this tool.

- Marking gauge
- Try square
- Mortise gauge
- Engineer's square



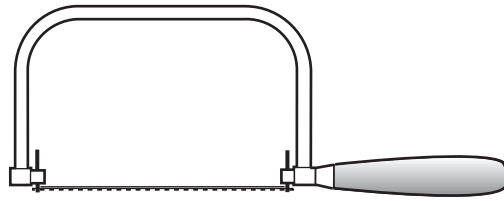
1
0

1
0

1. (b) (continued)

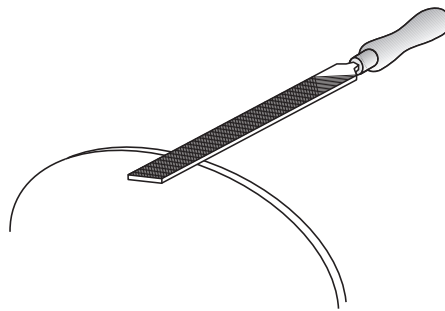
(ii) Tick (✓) the name of this tool.

- Bandsaw
- Jigsaw
- Coping saw
- Hacksaw



1
0

(iii) **State** the name of the tool shown below.



1
0

(c) The stages for finishing the edges of Part (A) are shown below **in the wrong order**.

Draw File

Polish with soft cloth

Cross File

Smooth with wet and dry paper

Complete the list below, by arranging the stages **in the correct order**.

1. *Cross File* _____
2. _____
3. _____
4. _____

1
0
1
0
1
0

[Turn over

1. (continued)

(d) The drill shown below was used during the manufacture of the desk tidy.

Tick (✓) the correct name of the drill.

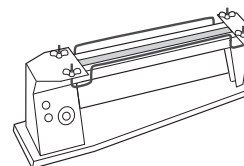
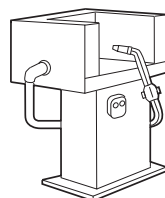
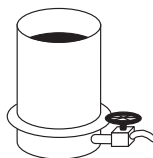
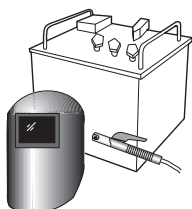
- Forstner
- Twist
- Auger
- Flat



1
0

(e) A strip heater was used in the manufacture of the Part (A).

Tick (✓) the sketch of the strip heater.

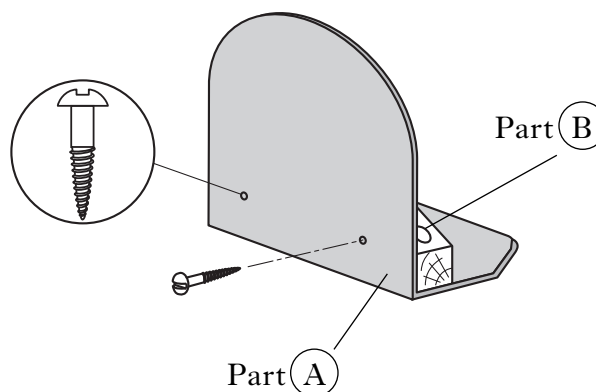


1
0

(f) Part (A) is attached to part (B) using screws, as shown.

Tick (✓) the name of the screw shown below.

- Raised head screw
- Cross head screw
- Round head screw
- Counter sink screw



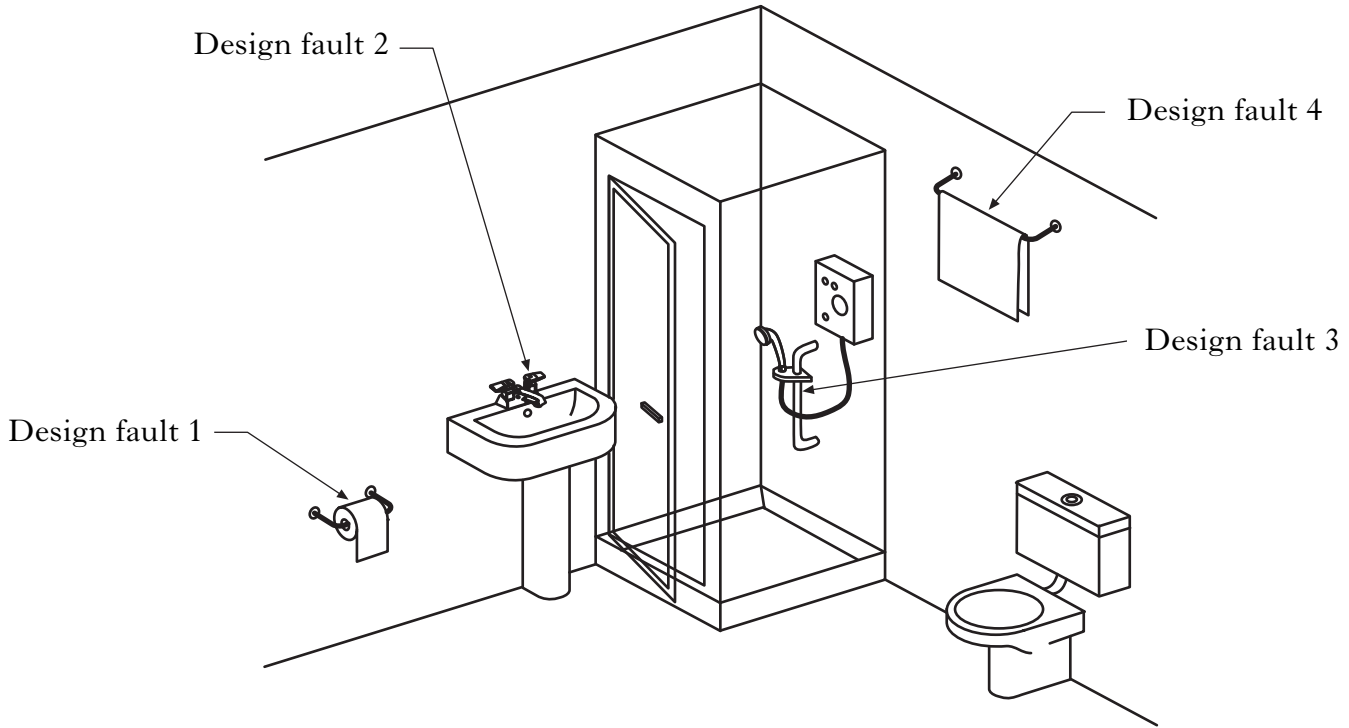
1
0

(g) A coloured wood stain was applied to Part (B). State how pencil marks could be removed before applying the stain.

1
0

2. A design for a bathroom layout is shown below.

Four design faults are shown.



Complete the sentences below, **stating** the design fault in each case.

Fault 1 The toilet roll holder is _____

1
0

Fault 2 The bathroom sink is _____

1
0

Fault 3 The shower head adjustment rail is _____

1
0

Fault 4 The towel rail is _____

1
0

[Turn over

3. **Nine** pages from a design folio for a spatula are shown.

Using the following list, **write the title** of each page in the box provided. **Three** pages have been completed for you.

- Research* *Working Drawing* *Specification* *Ideas* *Brief*
Ergonomics *Presentation Sketch* *Problem Analysis* *Evaluation*

(i)

(ii)

I am going to design a kitchen spatula. It is needed to lift food from a pan to a plate.

Research

Existing Spatula

- This spatula is made from a hardwood.
- This spatula has a hole to hang on a peg.
- This spatula costs £4.99

Ergonomics

(iii)

The design must:

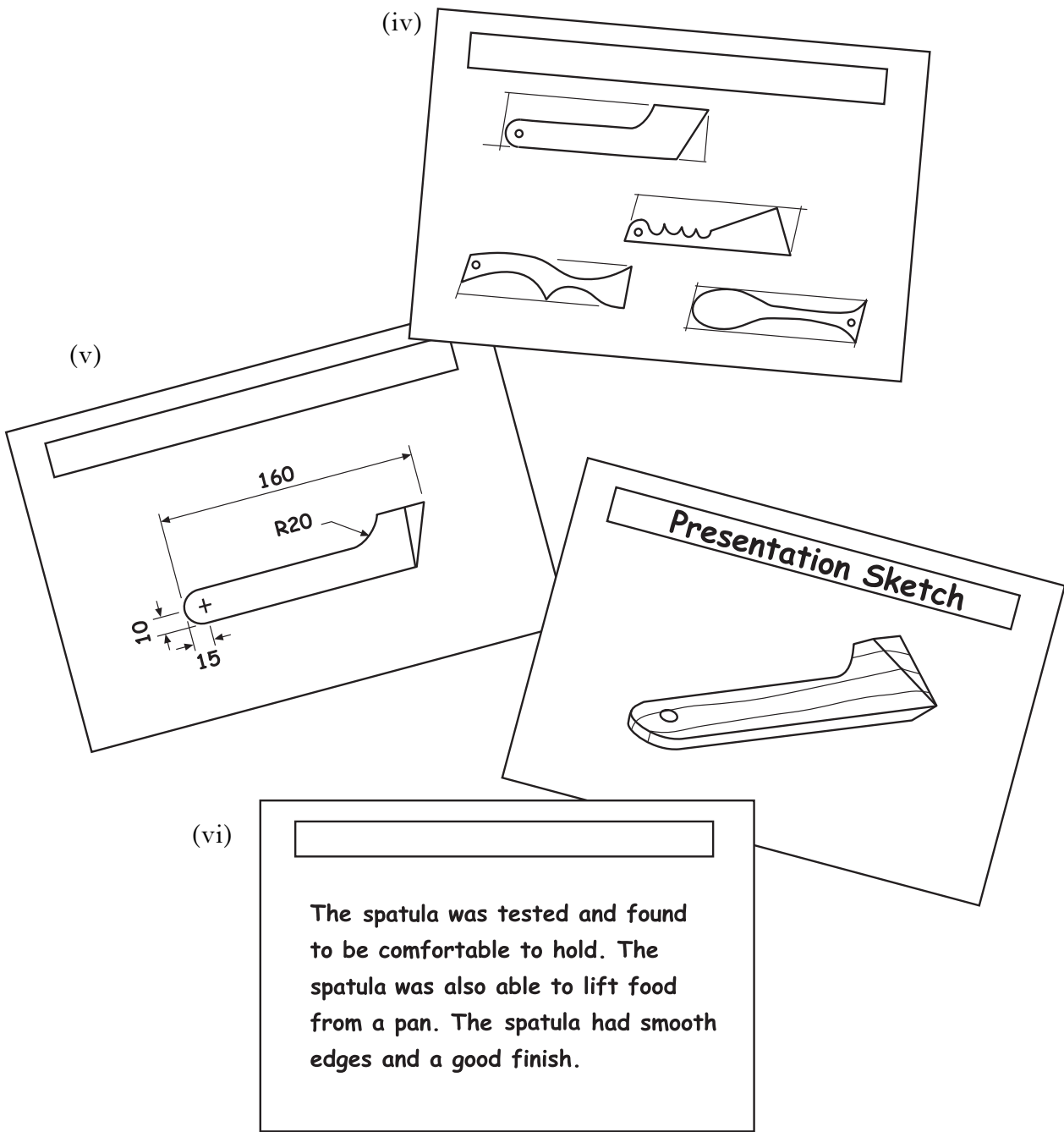
- have no sharp edges
- be manufactured from pine
- be able to lift food
- be well finished.

1
0

1
0

1
0

3. (continued)



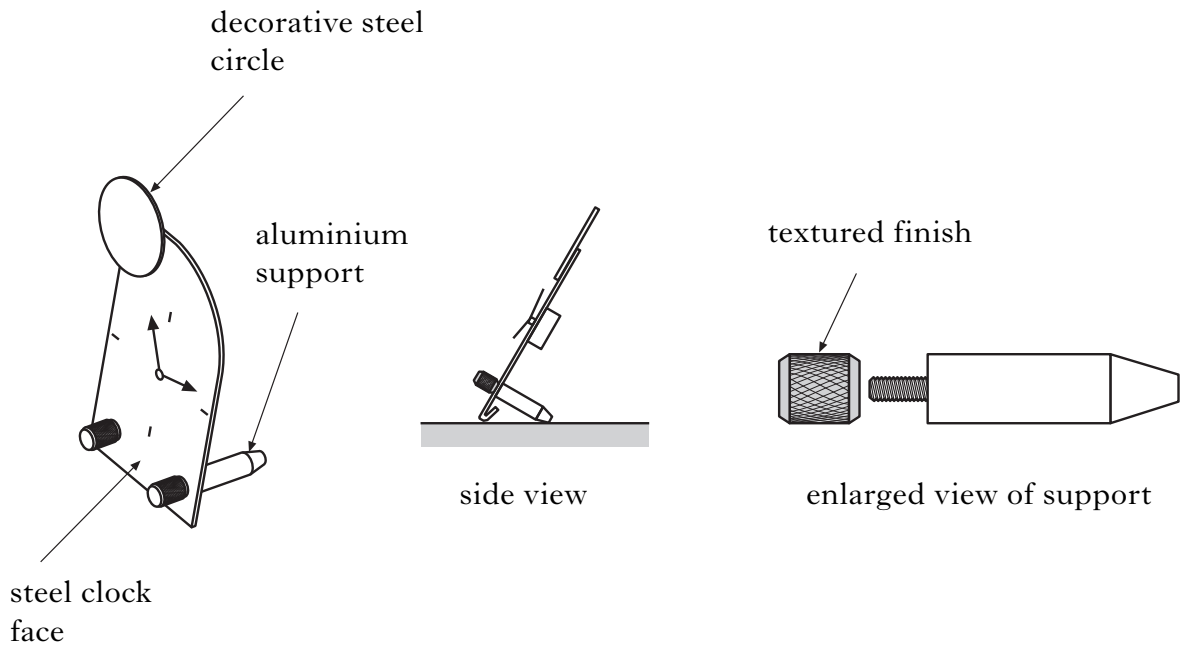
1
0

1
0

1
0

[Turn over

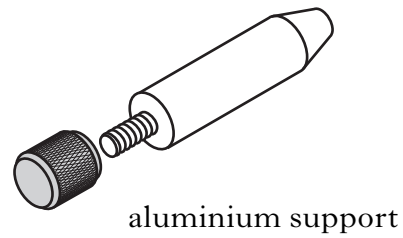
4. A clock manufactured from sheet steel and aluminium is shown below.



(a) Aluminium is a **non-ferrous** metal.

Tick (✓) the meaning of “non-ferrous”

- It does not contain copper
- It does not conduct heat
- It does not contain iron
- It does not conduct electricity



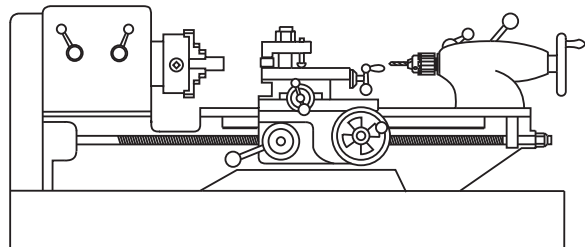
aluminium support

1
0

(b) (i) The support was manufactured using the machine below.

Tick (✓) the name of this machine.

- Pillar drill
- Metal lathe
- Forge
- Sanding machine

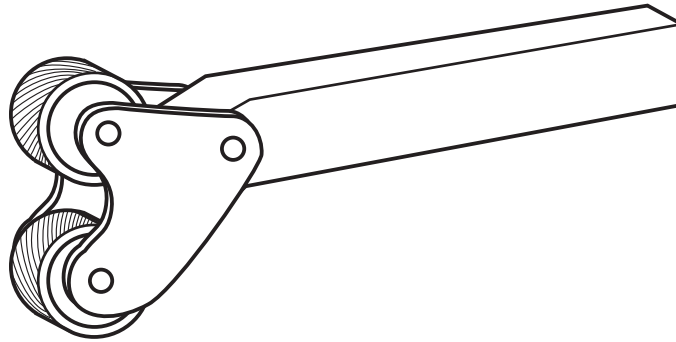


The guard was removed for clarity

1
0

4. (b) (continued)

(ii) The tool shown below was used to add a textured finish.



From the list **select and state** the name of the tool shown.

Parting *Knurling* *Facing* *Scraping*

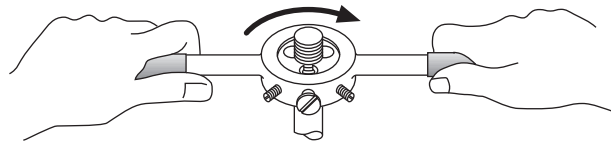
Name of tool _____

1
0

(iii) The tool shown below was used in the manufacture of the support.

Tick (✓) the name of this tool.

- Tap wrench
- Die
- Plug tap
- Scriber



1
0

(iv) Tick (✓) the purpose of this tool.

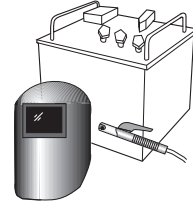
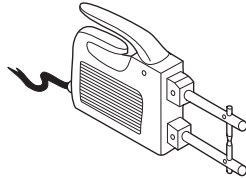
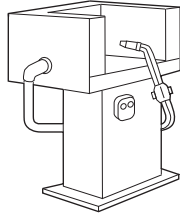
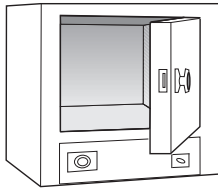
- Cutting an external thread
- Parting off
- Cutting an internal thread
- Taper turning

1
0

[Turn over

4. (continued)

- (c) The decorative “circle” was **spot-welded** to the clock face.
Tick (✓) the sketch of the spot-welder.



1
0

- (d) From the list below, select a suitable coloured finish for the steel parts of the clock.

Varnish

Wax

Paint

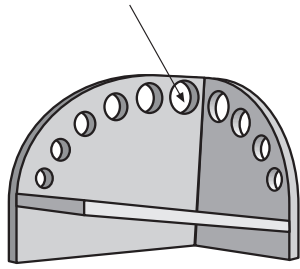
Vegetable Oil

Coloured finish _____

1
0

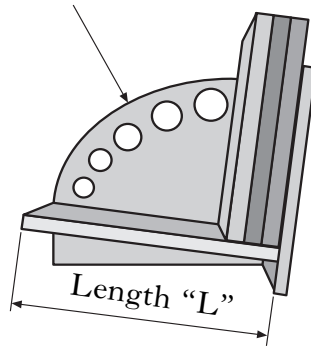
5. A storage rack for computer games made from hardwood is shown below.

Decorative holes

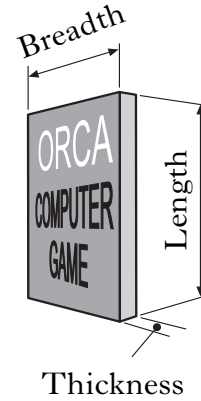


Empty Rack

Curved edge "C"



Rack with some games
in place



Computer game

(a) From the list below, **select** a suitable **hardwood**.

Pine

Beech

Spruce

MDF

1
0

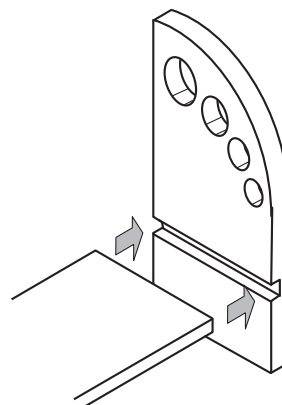
(b) Tick (✓) **two** pieces of information that will determine the **length "L"** of the storage rack.

- | | |
|---|---|
| <input type="checkbox"/> The length of computer game | <input type="checkbox"/> The breadth of computer game |
| <input type="checkbox"/> The type of computer game | <input type="checkbox"/> The number of computer games |
| <input type="checkbox"/> The thickness of computer game | <input type="checkbox"/> The cost of computer game |

2
1
0

(c) The joint shown was used in the manufacture. Tick (✓) the name of the joint.

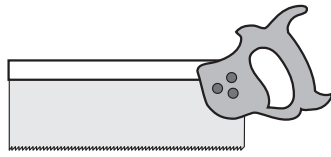
- Cross halving
- Through housing
- Mortise and tenon
- Stopped housing



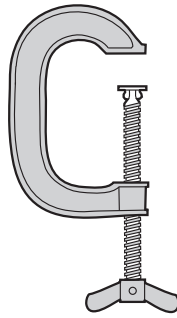
1
0

5. (continued)

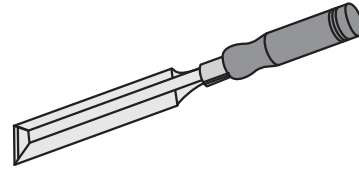
(d) The tools used to **mark out** and **cut** the joint are shown below.



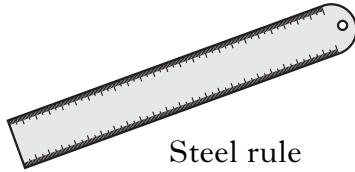
Tenon saw



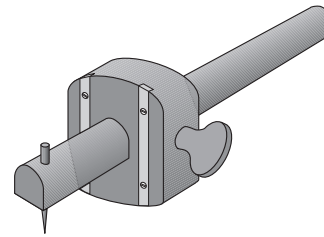
G-clamp



Bevel-edged chisel



Steel rule



Marking gauge

State the name of the tool used for each of the stages listed below.

- Measuring _____
- Marking the depth of the joint _____
- Holding the material while cutting _____
- Cutting the sides of the joint _____
- Removing waste material from the joint _____

1
0
1
0
1
0
1
0

(e) State the name of a machine tool that can be used to shape the curved edge "C" of the storage rack.

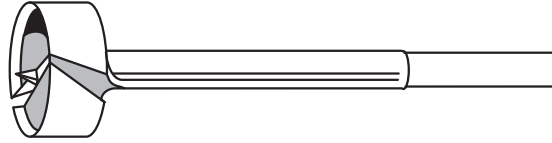
Name of machine tool _____

1
0

5. (continued)

- (f) The tool shown below was used during the manufacture of the storage rack.
Tick (✓) the name of this tool.

- Flat bit
- Countersink bit
- Auger bit
- Forstner bit



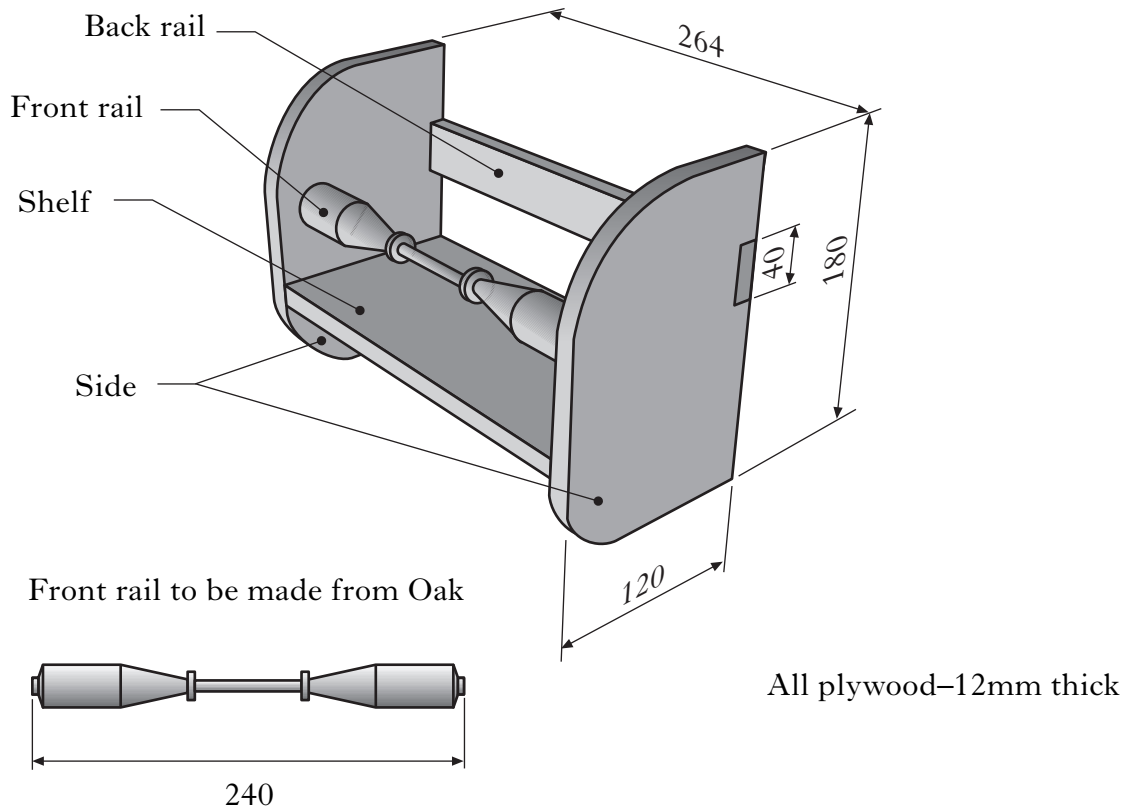
- (g) The storage rack is to be finished using **varnish**.
State a method of **applying** the varnish **thinly** and **evenly**.

[Turn over

1
0

1
0

6. A storage rack for use in a kitchen is shown below.



(a) Using the information above, **complete** the cutting list shown below.

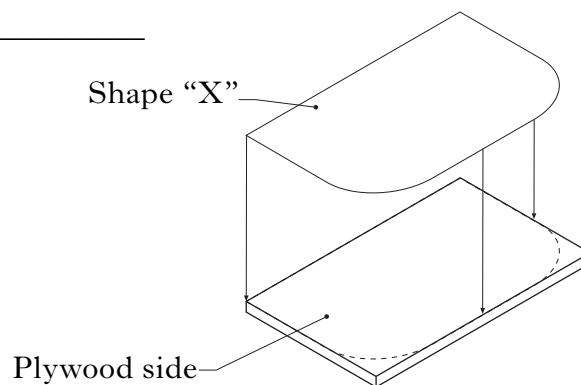
Part name	Material	Quantity	Length	Breadth	Thickness
Front rail	_____	1	240	30	30
Back rail	Plywood	1	_____	40	12
Shelf	Plywood	1	240	120	_____
Side	Plywood	_____	180	_____	12

1
0
1
0
1
0
2
1
0

6. (continued)

- (b) The shape "X" shown below made from card was used to mark out the sides of the rack **quickly** and **accurately**.

State the name of this type of marking out aid.

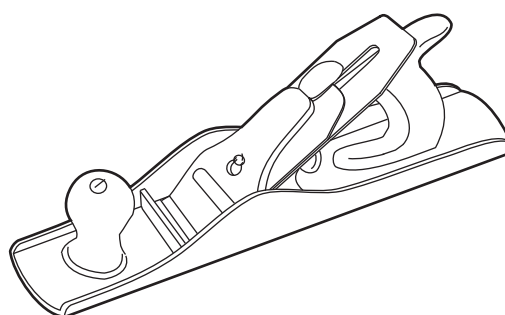


1
0

- (c) The tool shown below was used in the manufacture of the storage rack.

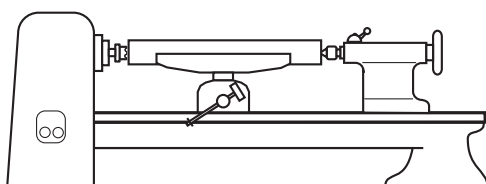
Tick (✓) the name of this tool.

- Hand router
- Roughing tool
- Plane
- Gouge



1
0

- (d) The decorative front rail was manufactured on the machine shown below.



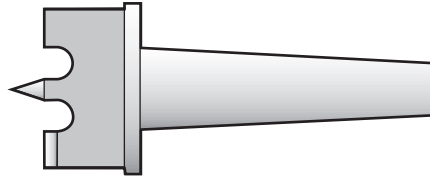
- (i) **State** the name of this machine.

1
0

[Turn over

6. (d) (continued)

- (ii) The tool shown below was used to hold one end of the material on the machine. From the following list, **select** and **write** the name of this tool.



Driving fork

Parting tool

Facing tool

Live centre

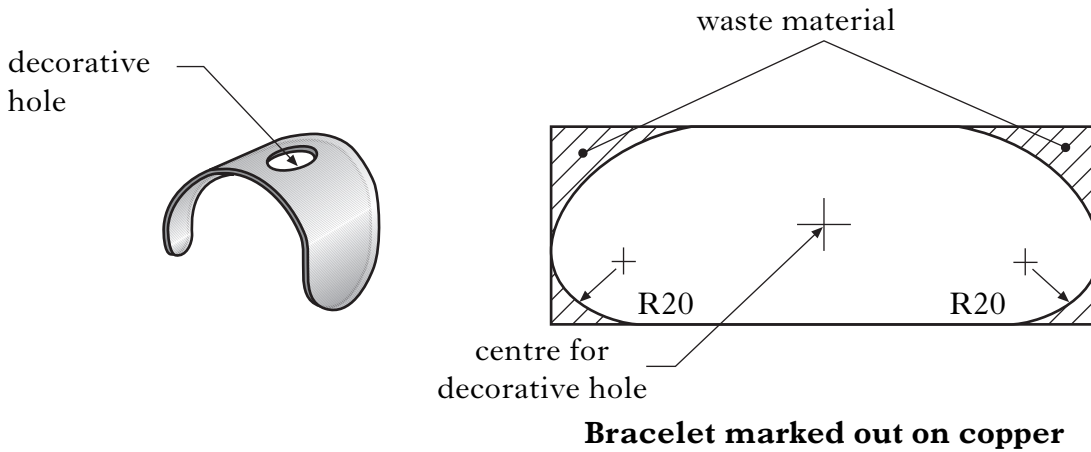
- (iii) From the list below, tick (✓) **three** safety checks that should be carried out to the **machine before** switching it on.

- | | |
|--|--|
| <input type="checkbox"/> Chuck key removed | <input type="checkbox"/> Material turns freely |
| <input type="checkbox"/> Safety goggles are worn | <input type="checkbox"/> Speed set correctly |
| <input type="checkbox"/> Tool rest is secured | <input type="checkbox"/> Tail stock is removed |

1
0

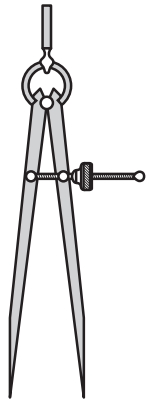
3
2
1
0

7. The bracelet shown below was made from a thin sheet of copper.

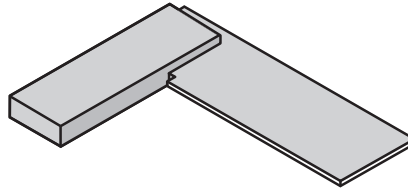


Bracelet marked out on copper

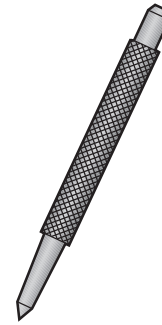
(a) The tools shown below were used during the manufacture of the bracelet.



Tool (A)



Tool (B)



Tool (C)

A list of tools is given below

- | | | | |
|--------------------------|-------------------------|------------------------|---------------------|
| <i>Engineer's vice</i> | <i>Oddleg callipers</i> | <i>Spring dividers</i> | <i>Screwdriver</i> |
| <i>Engineer's square</i> | <i>Tin snips</i> | <i>Scriber</i> | <i>Centre punch</i> |

From the list select the name of:

- (i) tool (A) _____
- (ii) tool (B) _____
- (iii) tool (C) _____
- (iv) the tool that could be used to remove most of the waste material.

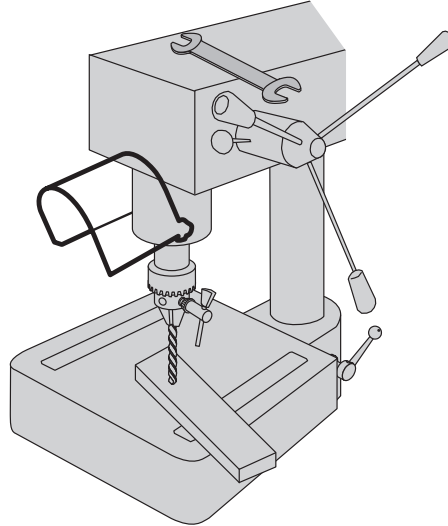
1
0
1
0
1
0
1
0

[Turn over

7. (continued)

The decorative hole was drilled using a **pedestal drill**.

(b) **Write** down **four** safety rules that are not being followed in the picture below.



1 _____

2 _____

3 _____

4 _____

1
0

1
0

1
0

1
0

[END OF QUESTION PAPER]

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