

FOR OFFICIAL USE

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Q1		Q5	
Q2		Q6	
Q3		Q7	
Q4		Q8	

Total

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0600/29/01

NATIONAL
QUALIFICATIONS
2012

THURSDAY, 17 MAY
10.20 AM - 11.20 AM

CRAFT AND DESIGN
STANDARD GRADE
General Level

Fill in these boxes and read what is printed below.

Full name of centre

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Town

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Forename(s)

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Surname

--

Date of birth

Day Month Year

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Scottish candidate number

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Number of seat

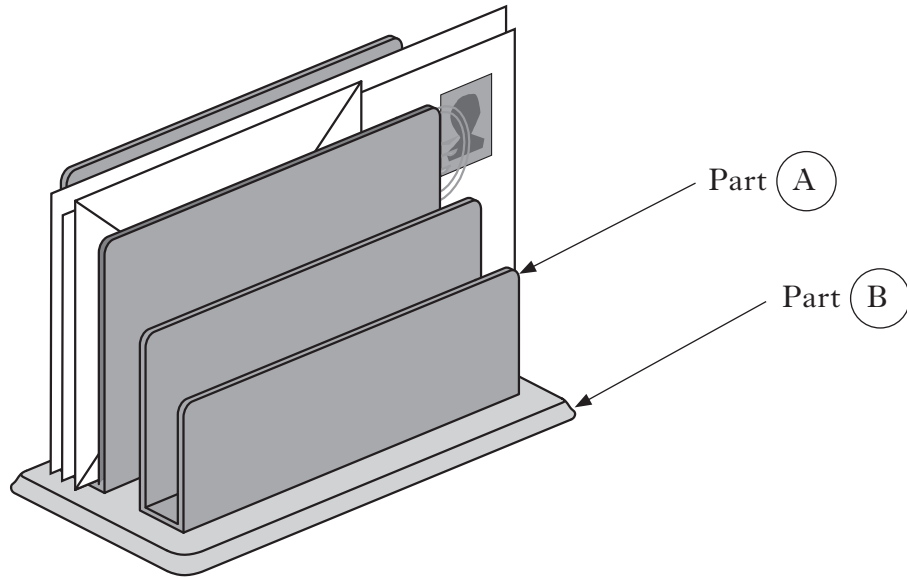
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- 1 Answer all the questions.
- 2 Read every question carefully before you answer.
- 3 Write your answers in the spaces provided.
- 4 Do **not** write in the margins.
- 5 All dimensions are given in millimetres.
- 6 Before leaving the examination room 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 letter holder is shown below.



(a) Part (A) was made from a non-ferrous metal.
State the name of a suitable metal.

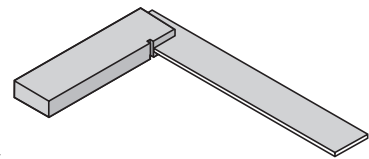
1
0

(b) State a reason why the corners of Part (A) are rounded.

1
0

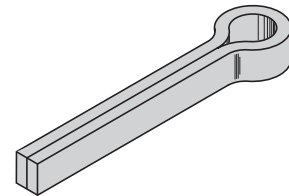
(c) The following tools were used when manufacturing Part (A).
State the name of each tool.

(i) Name of tool



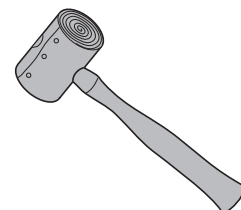
1
0

(ii) Name of tool



1
0

(iii) Name of tool



1
0

1. (continued)

- (d) Part (B) was made from softwood.
State the name of a suitable softwood.

1
0

- (e) A finish was required that allows the grain of the softwood to show.
State the name of a suitable finish.

1
0

- (f) Part (A) was fixed to Part (B) using countersink wood screws.

- (i) Complete the sketch to show the head of the countersink wood screw below.



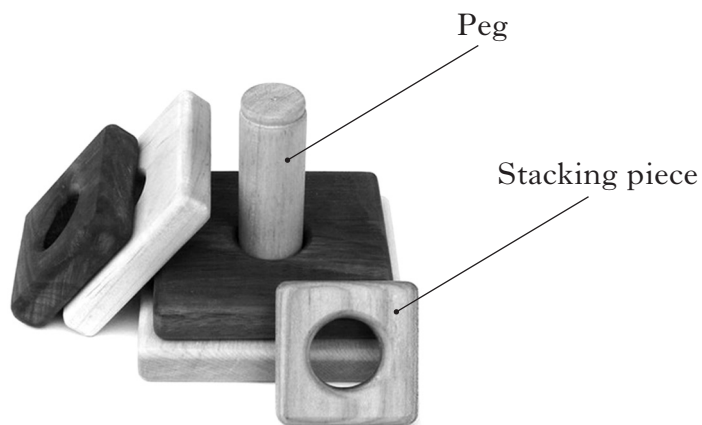
1
0

- (ii) State why countersink wood screws were used instead of round head wood screws.

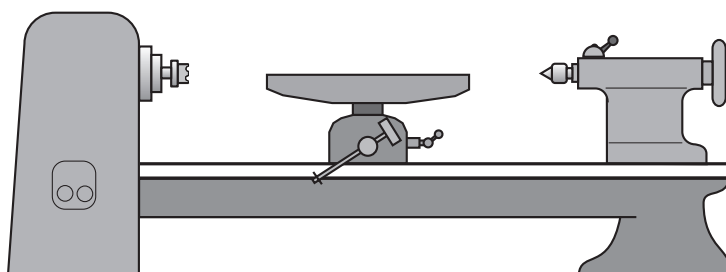
1
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[Turn over

2. A wooden toy is shown below.



The peg was turned on a wood lathe.

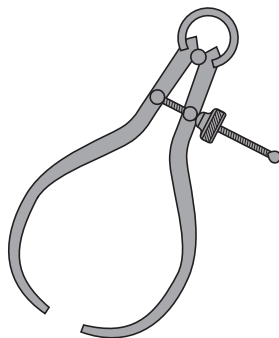


(a) State **two** safety checks made to the **wood lathe** before switching it on.

Safety check 1 _____

Safety check 2 _____

(b) The tool shown below was used when manufacturing the peg.
State the name and purpose of this tool.



Tool name _____

Tool purpose _____

1
0
1
0

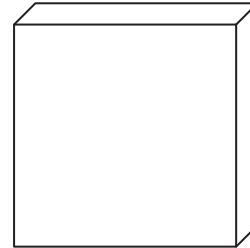
1
0
1
0

2. (continued)

(c) A hole was drilled in the centre of each stacking piece.

Describe how the centre of the stacking piece can be found, **without measuring**.

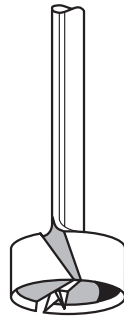
A sketch may be used to illustrate your answer.



Blank for
stacking piece

1
0

(d) The drill bit shown was used in the manufacture of the stacking piece.

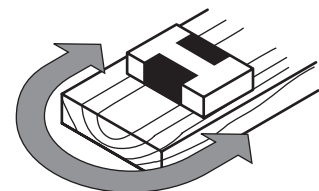
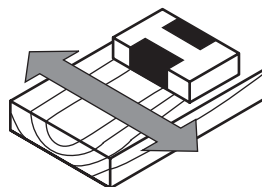
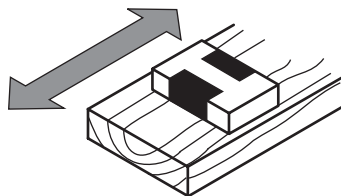


State the name of this drill bit.

1
0

(e) Glass paper was used to remove pencil marks before applying a finish.

(i) Tick (✓) the box under the sketch which shows the correct direction for glass papering.



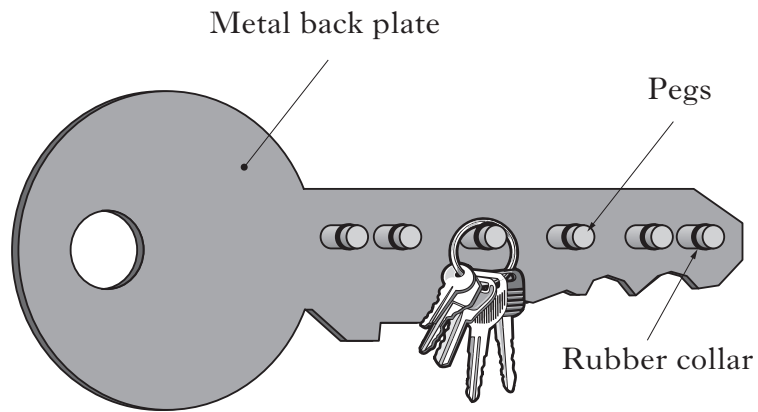
1
0

The grain was raised before the finish was applied.

(ii) State how to raise the grain of the wood.

1
0

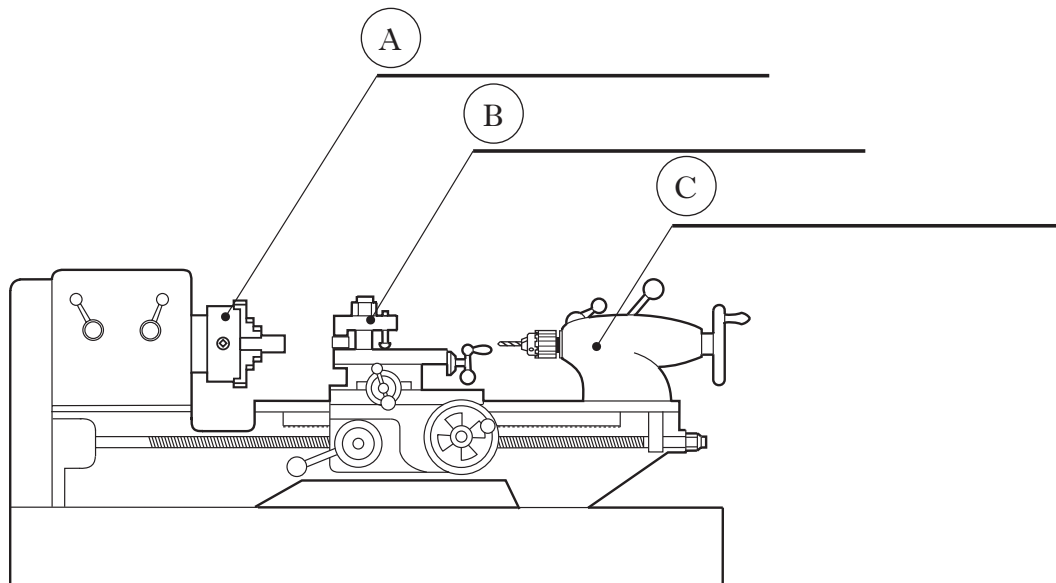
3. A key holder is shown below.



(a) The pegs were manufactured on a metal lathe.

Using the list below, complete the three missing labels (A), (B) and (C).

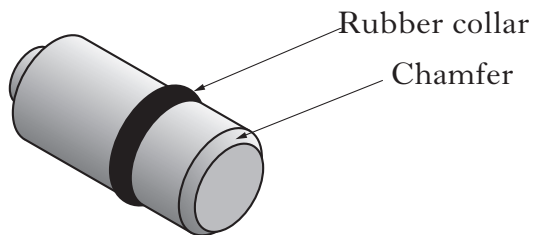
- Headstock Tool post Tailstock Three jaw chuck**
Compound slide Cross slide



1
0
1
0
1
0

3. (continued)

One peg is shown below.



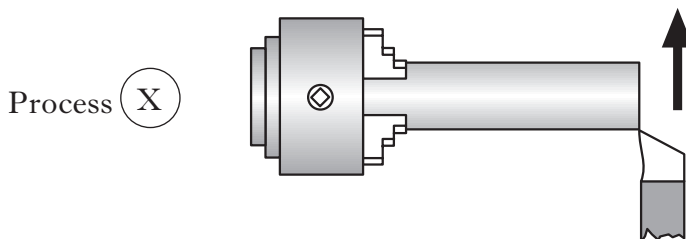
View of peg

(b) State a reason for the chamfer.

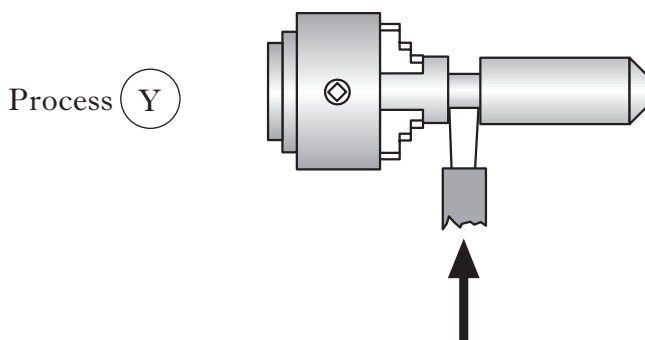
(c) State the function of the rubber collar.

The following processes were used in the manufacture of the metal peg.

(d) (i) State the name of Process (X), shown below.



(ii) State the name of Process (Y), shown below.



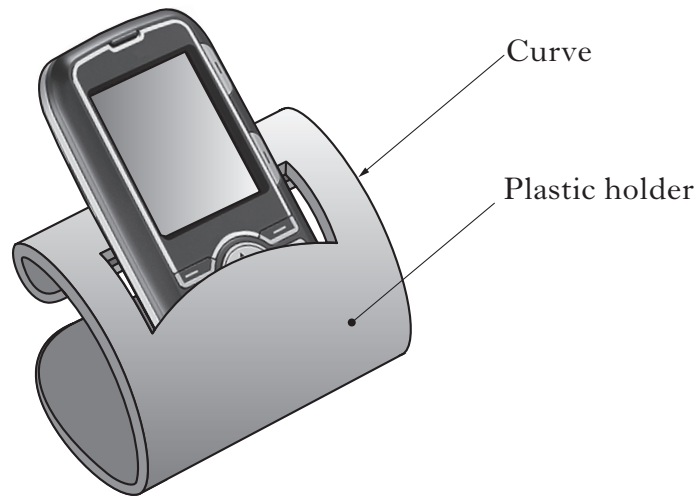
1
0

1
0

1
0

1
0

4. A plastic holder for a mobile phone is shown below.



- (a) The size of the phone is important to the design of the holder.
State the stage in the design process where the phone would be measured.

1
0

- (b) The mobile phone holder was made from thermoplastic.
(i) State the name of a suitable thermoplastic.

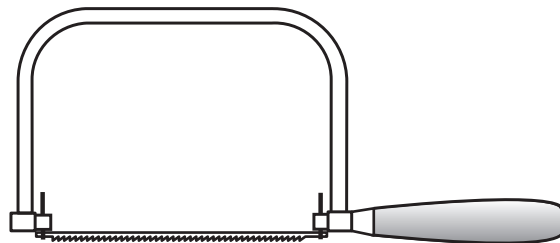
1
0

The plastic was supplied with a covering on both sides.

- (ii) State a reason for this covering.

1
0

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



State the name of this saw.

1
0

4. (continued)

(d) Complete the stages for finishing the edges of the plastic.

Stage 1 Cross file

Stage 2 _____

Stage 3 Use wet and dry paper

Stage 4 _____

1
0

1
0

(e) The plastic was heated prior to shaping the **curve**.

State the name of the equipment used to heat the plastic.

1
0

(f) A school enterprise group use a template when producing a number of plastic holders.

State **two** reasons for using a template.

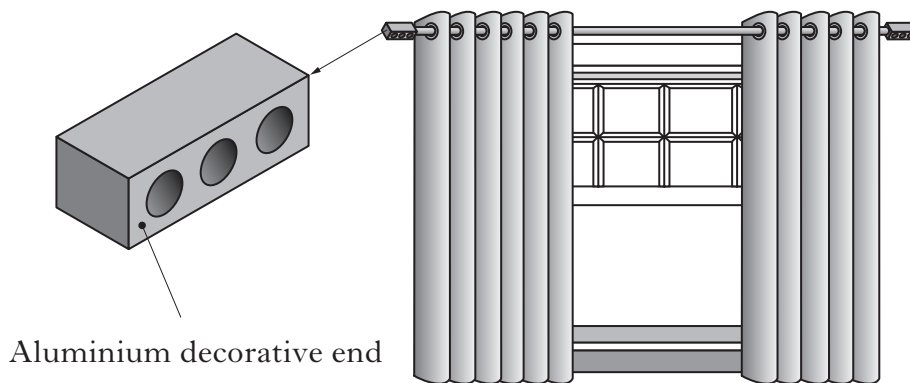
Reason 1 _____

Reason 2 _____

1
0
1
0

[Turn over

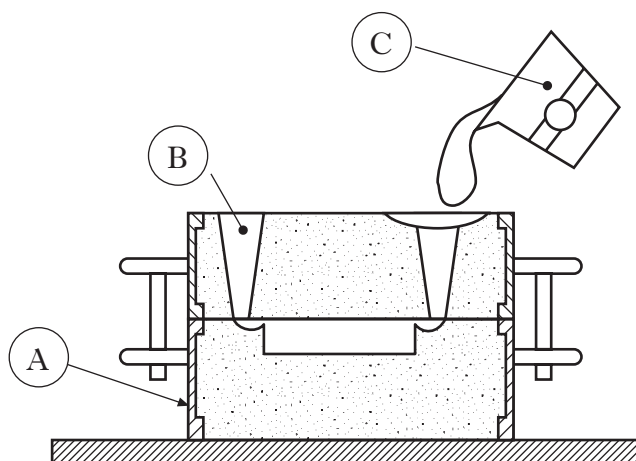
5. A decorative end for a curtain rail is shown below.



The process of sand casting was used to manufacture the aluminium decorative end.

(a) Some terms relating to the casting process are given below.

Runner Crucible Riser Drag Moulding sand



(i) Using these terms, state the name of:

(A) _____

(B) _____

(C) _____

1
0
1
0
1
0

5. (a) (continued)

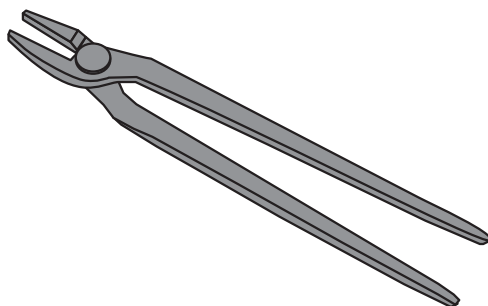
- (ii) State the property of aluminium which makes it suitable for casting in the school workshop.

1
0

- (iii) State why the apron worn when casting is made from leather.

1
0

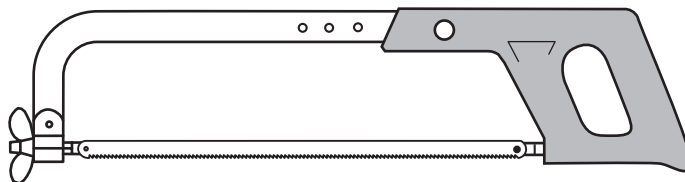
- (b) The tool shown below was used to remove the hot aluminium from the sand.



State the name of the tool.

1
0

- (c) The tool shown below was used in the manufacture of the decorative end.

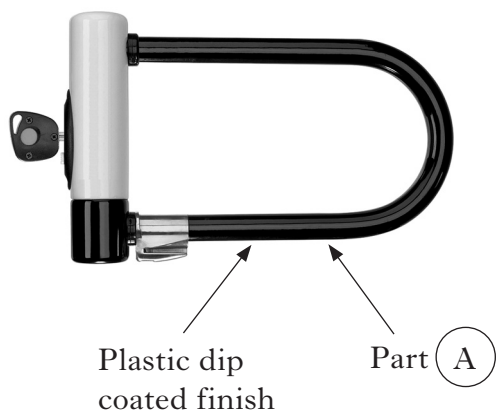


State the name of the tool.

1
0

[Turn over

6. A bicycle lock is shown below.



(a) One statement in the specification for the bicycle lock is given below.

- The lock must be plastic dip coated to prevent rusting.

List **three** other statements that could appear in the design specification.

The lock must:

Statement 1 _____

1
0

Statement 2 _____

1
0

Statement 3 _____

1
0

(b) (i) Part **(A)** was made from a ferrous metal.

Select the ferrous metal from the list below.

Brass Aluminium Steel Copper Lead

Ferrous Metal _____

1
0

(ii) Ferrous metals can be difficult to bend.

State what can be done to soften metal to make bending easier.

1
0

6. (continued)

(c) Part (A) was plastic dip coated.

(i) From the list below select **two** pieces of equipment used in the plastic dip coating process.

Strip heater Oven Vacuum former Spot welder
Fluidizer

1 _____

2 _____

(ii) Plastic dip coating protects metal from rusting.

State another reason for dip coating metal.

(d) The lock was tested before going on sale.

State the name of the stage in the design process when testing takes place.

1
0

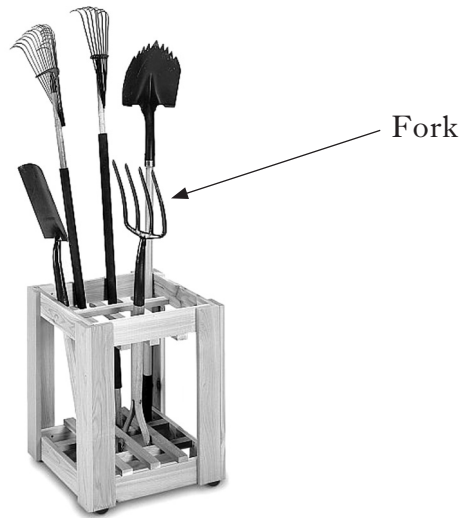
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1
0

1
0

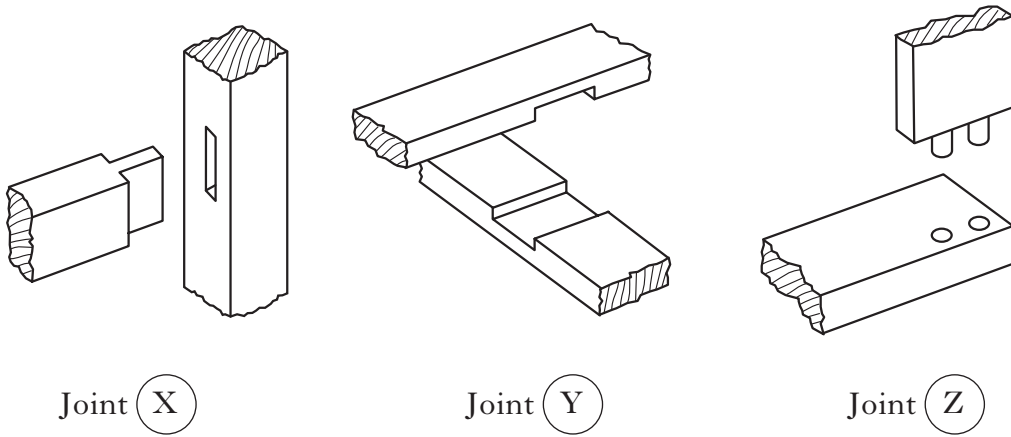
[Turn over

7. A storage rack for garden tools is shown below.



(a) State the fault with this method of storing tools.

(b) The following joints were researched during the design of the storage rack.



State the name of each joint

Joint (X) _____

Joint (Y) _____

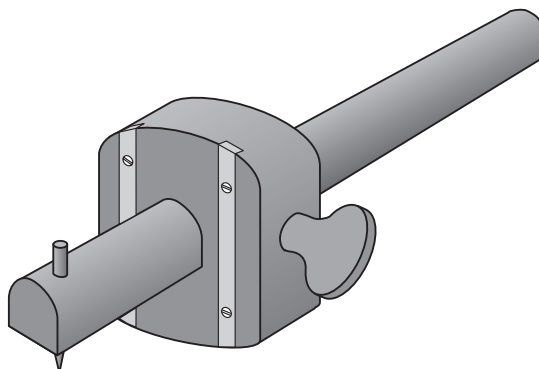
Joint (Z) _____

1
0

1
0
1
0
1
0

7. (continued)

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



- (i) Name of tool

- (ii) Use of tool

1
0

1
0

[Turn over for Question 8 on *Page sixteen*

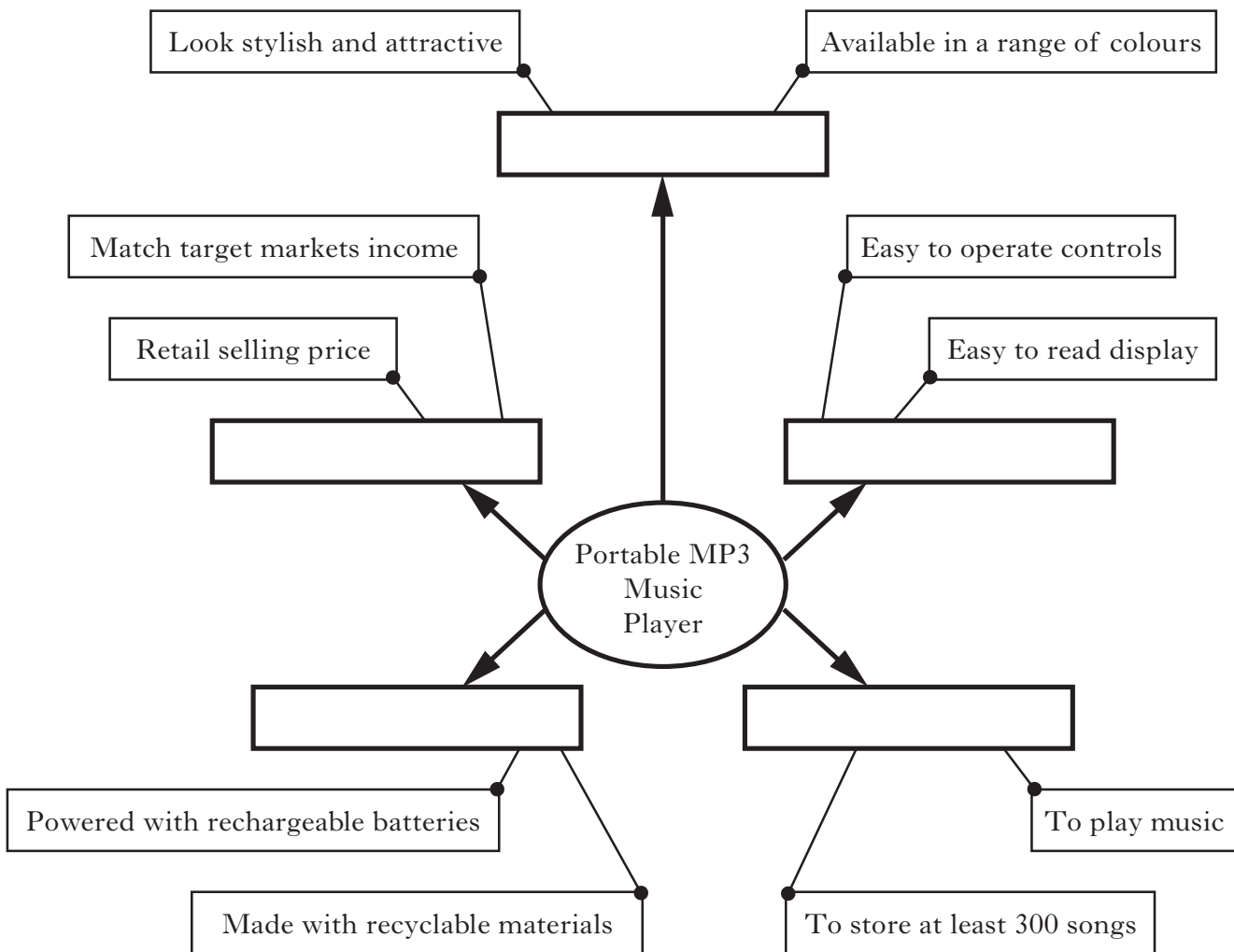
8. An MP3 player is shown below.



The following factors were considered by the designer.

Ergonomics Economics Aesthetics Environment
Function Safety

Complete the diagram below by selecting the correct factors.



1
0

1
0

1
0

1
0
1
0

[END OF QUESTION PAPER]