FOR OFFICIAL USE

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Q1		Q4	
Q2		Q5	
Q3			

Total

0600/29/01

NATIONAL QUALIFICATIONS 2013

MONDAY, 20 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

Town

Forename(s)

Surname

Date of birth
Day Month Year

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.

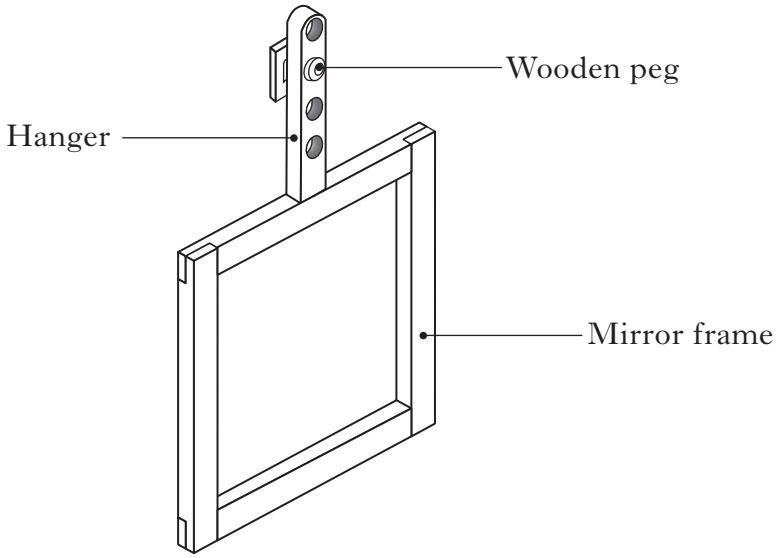
5 All dimensions are given in millimetres.

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.

DO NOT WRITE IN THIS MARGIN

ATTEMPT ALL QUESTIONS

1. A wall mounted mirror is shown.



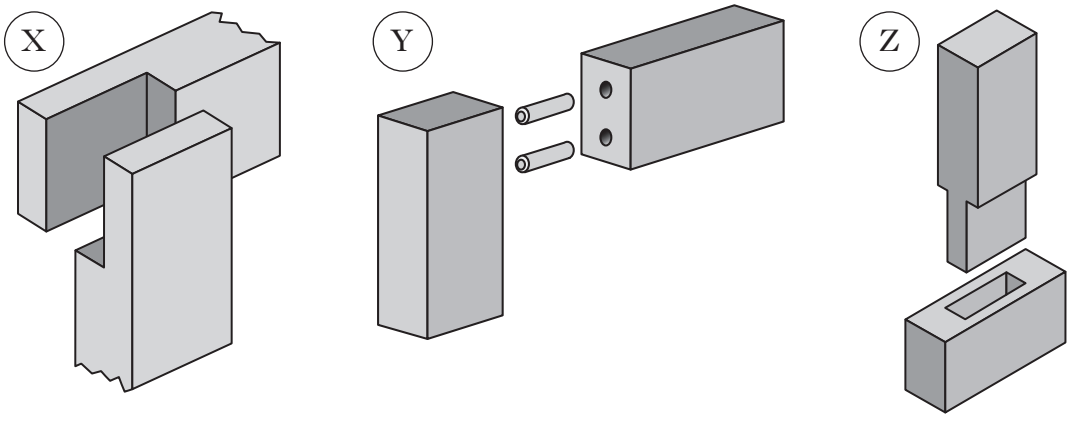
(*a*) (i) The mirror can be set to different heights.
State the feature of the hanger which makes this possible.

_____ **1 0**

(ii) State a reason why the height of the mirror needs to be adjustable.

_____ **1 0**

(*b*) The wood joints below were considered during the design of the mirror frame.
State the name of each joint.



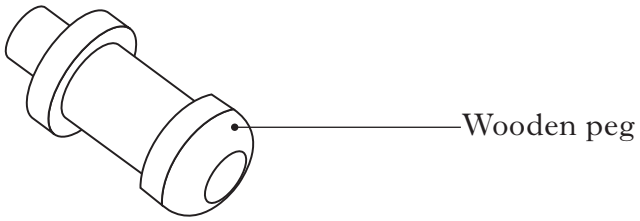
Joint (X) _____ **1 0**

Joint (Y) _____ **1 0**

Joint (Z) _____ **1 0**

1. (continued)

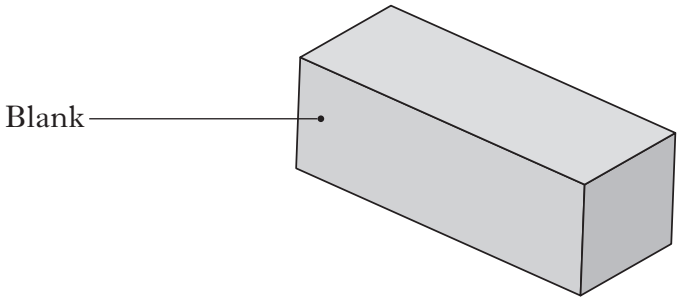
(*c*) The wooden peg for hanging the mirror is shown below.



(i) State the name of the **machine** used to turn the wooden peg. **1 0**

_____

The wooden peg was manufactured from the blank shown.



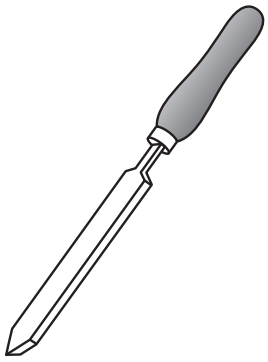
(ii) State **three** stages in the preparation of the blank for turning. **1 0 1 0 1 0**

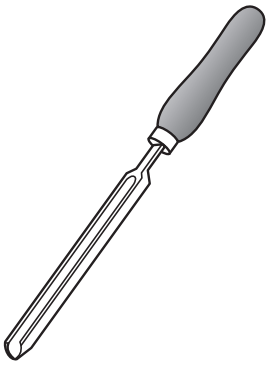
1 _____

2 _____

3 _____

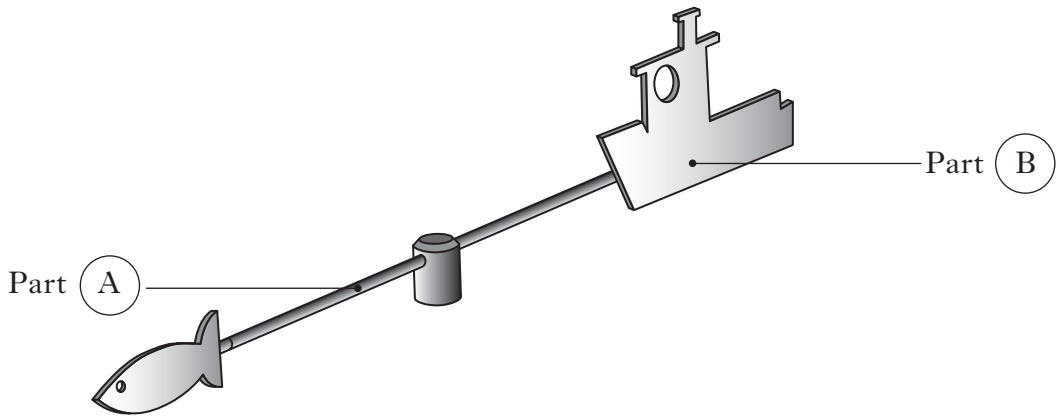
(iii) The tools shown below were used during the manufacture of the peg. State the name of each tool. **1 0 1 0**





Tool (A) _____ Tool (B) _____

2. Part of a wind vane manufactured from a ferrous metal is shown.

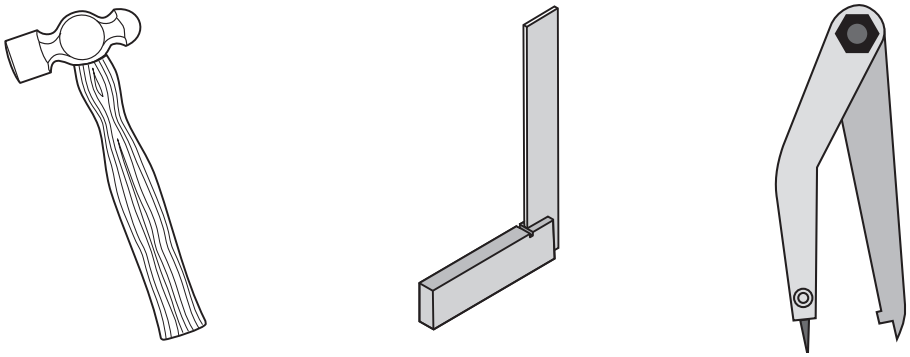


(*a*) From the list of materials given, select the ferrous metal.

Aluminium **Brass** **Copper** **Acrylic** **Mild steel**

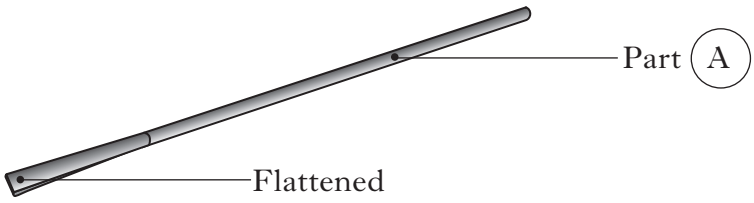
_____ **1 0**

(*b*) The tools shown below were used in the manufacture of the wind vane.
State the full name of each tool.



1 _____ 2 _____ 3 _____ **1 0 1 0 1 0**

(*c*) Part (A) has a flattened end.



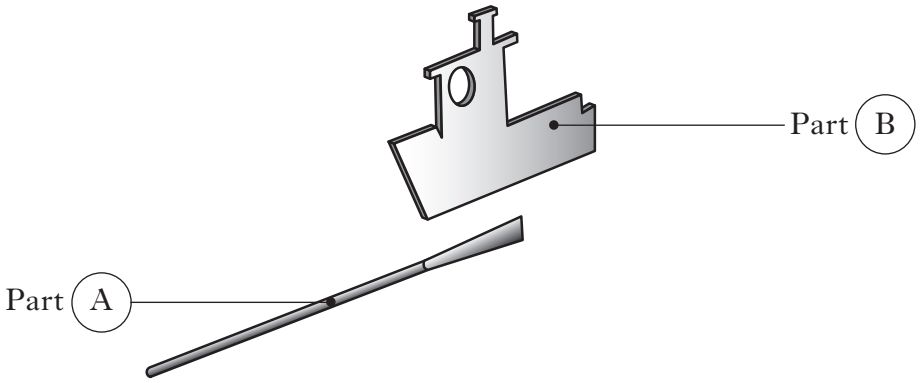
Select from the list the name of the process used to create the flattened end.

Blueing **Casting** **Threading** **Forging**

Name of process _____ **1 0**

2. (continued)

(*d*) Metal Part (A) and Part (B) were joined.



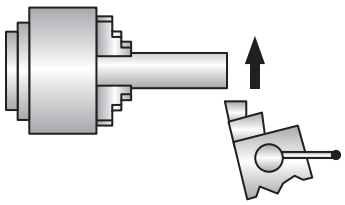
Other than gluing state **two** methods of joining Part (A) to Part (B).

Method 1 _____ **1 0**

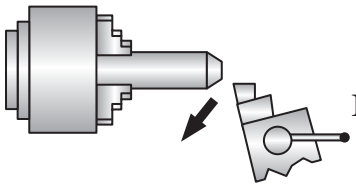
Method 2 _____ **1 0**

(*e*) Two metal lathe processes used in the manufacture of the wind vane are shown below.

State the name of each process.

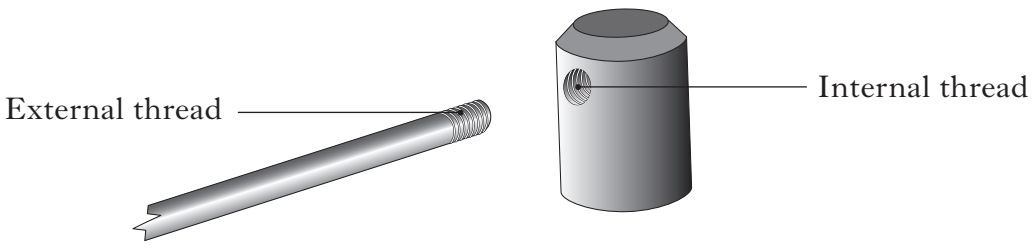


Name of process _____ **1 0**



Name of process _____ **1 0**

(*f*) Two parts of the wind vane were threaded as shown below.



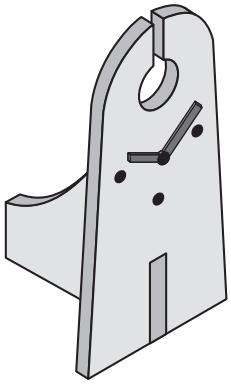
State the name of the tool used to cut the:

External thread _____ **1 0**

Internal thread _____ **1 0**

DO NOT WRITE IN THIS MARGIN

3. A clock is shown below.



(*a*) When designing the clock the following design factors were considered.

Function **Ergonomics** **Cost** **Aesthetics** **Safety**

From the list given match a factor with each statement.

(i) How a product looks _____ **1 0**

(ii) Value for money _____ **1 0**

(iii) How products and people interact _____ **1 0**

(iv) What a product is designed to do _____ **1 0**

(*b*) The clock was made from a manufactured board.

State the name of a suitable manufactured board.

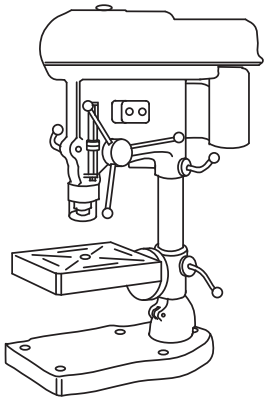
_____ **1 0**

(*c*) State a property of manufactured board which makes it a suitable choice of material.

_____ **1 0**

(*d*) The machine shown was used during the manufacture of the clock.

State the name of the machine and two safety checks carried out on the machine.



Name of machine _____ **1 0**

Check 1 _____ **1 0**

Check 2 _____ **1 0**

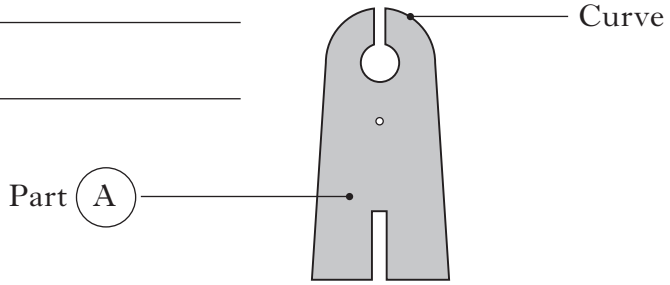
3. (continued)

(*e*) A curve was cut on part (A).

State the name of a **hand** and **machine** tool used to cut the curve.

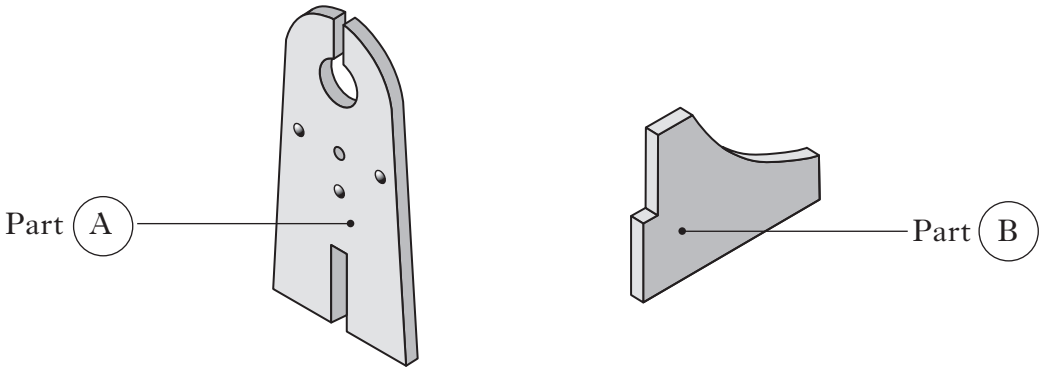
Hand Tool _____

Machine Tool _____



1 0 1 0

(*f*) Parts (A) and (B) of the clock were joined using a wood glue.



State the name of a suitable wood glue.

_____

1 0

(*g*) A finish was applied to the manufactured board.

State **two** reasons for applying a finish.

Reason 1 _____

Reason 2 _____

1 0 1 0

(*h*) State the name of a suitable finish.

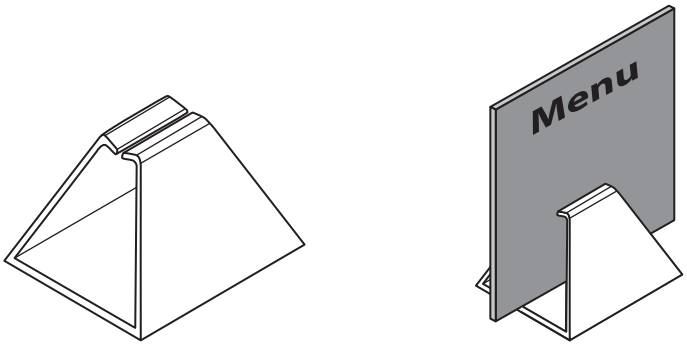
_____

1 0

[Turn over

DO NOT WRITE IN THIS MARGIN

4. A menu holder made from thermoplastic is shown below.



(*a*) (i) State the name of a suitable thermoplastic. **1 0**

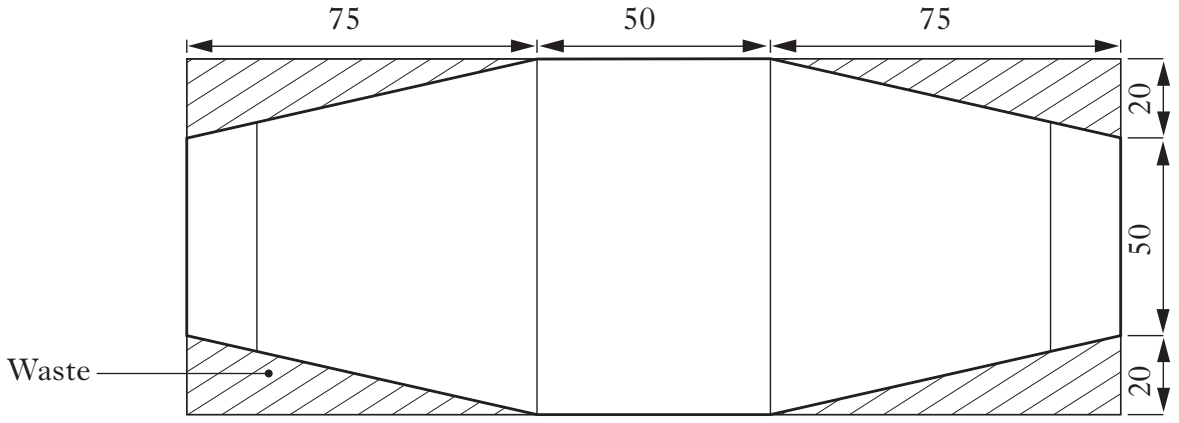
_____

(ii) State **two** reasons for using a thermoplastic. **1 0**

Reason 1 _____ **1 0**

Reason 2 _____

(*b*) The menu holder was marked out as shown.



State the total length of thermoplastic required to make one menu holder. **1 0**

_____

(*c*) A felt tip pen was used rather than a scriber for marking out the bend lines.

State a reason for using a felt tip pen. **1 0**

_____

(*d*) A hacksaw was used to cut the waste.

State the reason for holding the thermoplastic low in the vice when removing the waste. **1 0**

_____

4. (continued)

(*e*) One stage in finishing the edges of the thermoplastic is given below.

State **three** further stages.

- cross file
- _____
- _____
- _____

1 0 1 0 1 0

(*f*) The thermoplastic was heated prior to bending.

(i) State the name of the machine used

_____

1 0

(ii) State what may happen if the plastic is not hot enough prior to bending.

_____

1 0

(*g*) Stages in the manufacture of the menu holder are shown in the **wrong** order.

Cut shape **Mark out** **Bend thermoplastic** **Finish edges**

(i) State which stage should be done:

First _____

Last _____

1 0 1 0

(ii) The menu holder was tested to ensure that the menu fitted.

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

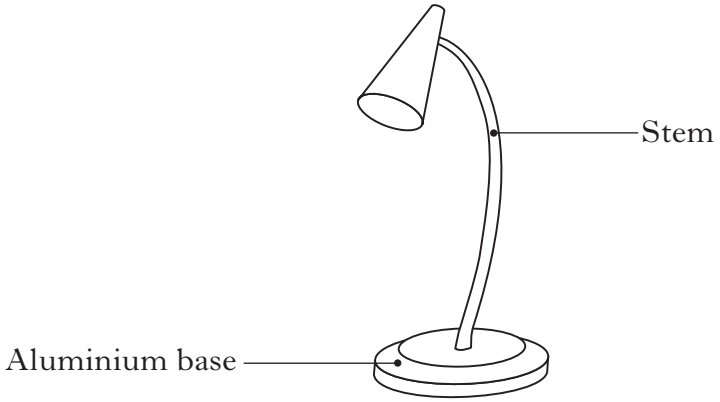
_____

1 0

[Turn over

DO NOT WRITE IN THIS MARGIN

5. A table lamp is shown below.



(*a*) The following statement was taken from a pupils design folio.

"The table lamp **must** be stable."

State the stage in the design process where this statement would appear.

_____ **10**

(*b*) State the feature of the aluminium base which makes the lamp stable.

_____ **10**

(*c*) During the design process a cutting list was produced.

Other than sizes state **two** pieces of information found in a cutting list.

1 _____ **10**

2 _____ **10**

(*d*) The base of the lamp was made by pouring molten aluminium into a mould.

(i) State the name of this process.

_____ **10**

(ii) State a reason why aluminium was a suitable material for this process carried out in a school.

_____ **10**

(iii) A leather apron is worn when pouring molten aluminium.

State a reason for the apron being made from leather.

_____ **10**

5. (continued)

(*e*) The stem of the table lamp was plastic dip coated.

A list of equipment is given below.

Spot welder **Oven** **Vacuum former** **Fluidiser** **Crucible**

From the list select **two** pieces of equipment used in the dip coating process.

1 _____

2 _____

1 0 1 0

[*END OF QUESTION PAPER*]

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