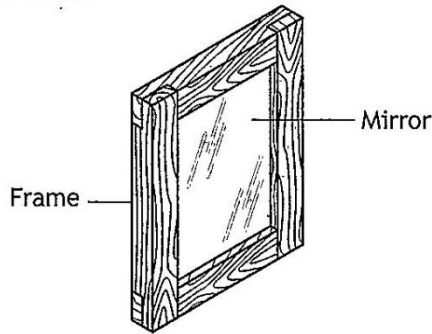


# Candidate 7 evidence

**MARKS** DO NOT WRITE IN THIS MARGIN

Total marks — 60  
Attempt ALL questions

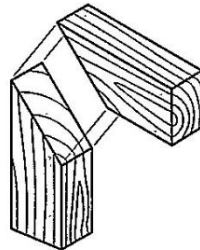
1. A mirror is shown below.



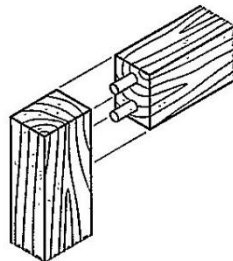
The mirror frame is made using corner halving joints.

As part of the design process various other joints were considered, three of which are shown.

(a) Name the joints shown.



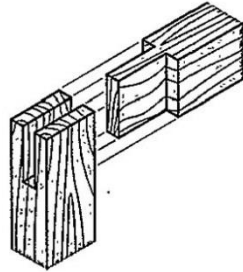
(i) Mitre Joint 1



(ii) Dowel Joint 1

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1. (a) (continued)



(iii) Corner Bridle Joint

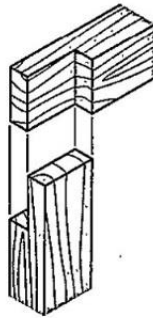
1

[Turn over

**MARKS** DO NOT WRITE IN THIS MARGIN

1. (continued)

The corner halving joint used in the mirror frame is shown below.



An important part of making any joint is marking out.


There are four stages in the marking out process.

(b) Describe three stages in the marking out process in the table below. You may use sketches to support your answer.

The stages must be in the correct order.

The final stage is completed for you.

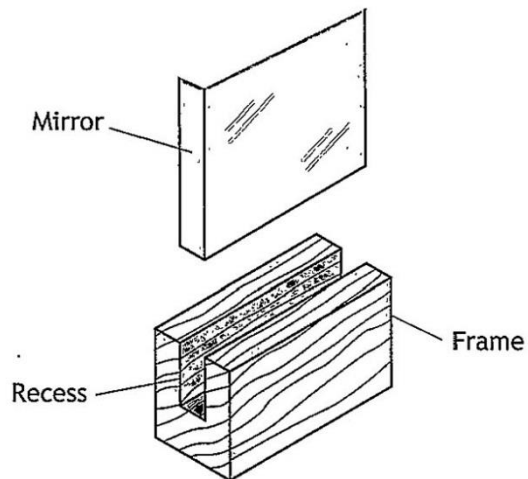
3

Sequence	Process
Stage 1	<del>Mark the width</del> Make sure your piece of wood is at the correct size.
Stage 2	Measure the length into the wood using a marking gauge and try square.  Continue the line around the wood using a pencil.
Stage 3	Mark the depth of the wood using a marking gauge and try square and join up the lines.
Stage 4	Mark the waste wood.

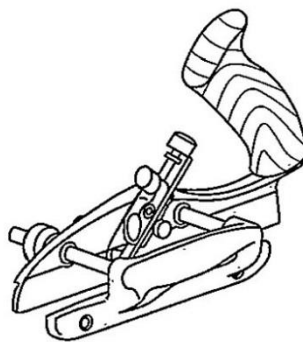
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## 1. (continued)

The mirror frame is recessed to allow the mirror to be fitted, as shown below.



The tool shown below is used to cut the recess.



(c) Name this tool.

Plough Plane

1

[Turn over

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1. (continued)

Various types of woods were considered to make the mirror frame.

(d) Complete the table below identifying if the woods listed are hardwood or softwood.

The first one is completed for you.

4

Wood	Hardwood/Softwood	
Meranti		Hardwood
Oak	(i)	Hardwood
Ash	(ii)	Hardwood
Cedar	(iii)	Softwood
Larch	(iv)	Softwood

It was decided to use softwood to make the mirror frame.

(e) Describe two environmental reasons for selecting a softwood instead of a hardwood.

2

- 1 They grow a lot quicker and therefore stop deforestation as you can grow forests quicker
- 2 They can be grown locally as they are suitable for most <sup>areas</sup> ~~parts~~ and therefore reduce the amount of emissions released from transporting the material.

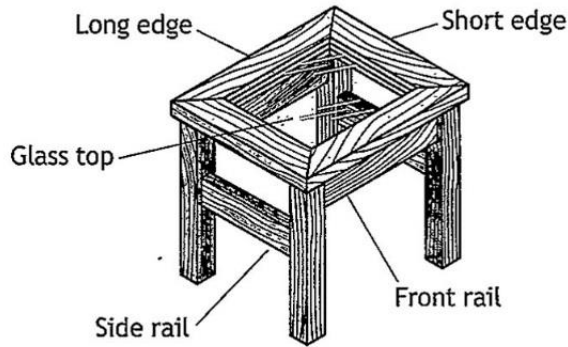
The mirror frame requires a finish to be applied which will protect the wood and show off the natural wood grain.

(f) State a suitable finish.

1

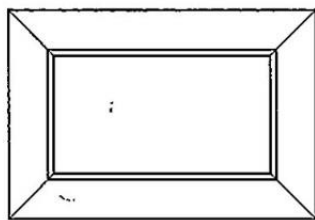
Clear Varnish

2. A table is shown below.

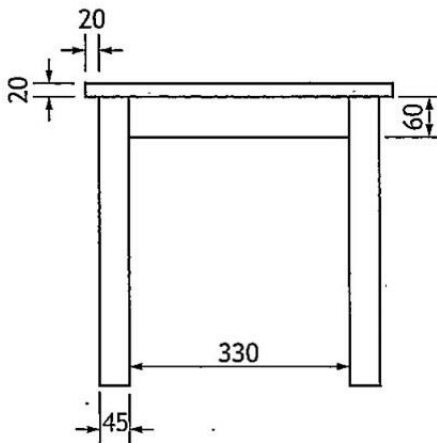


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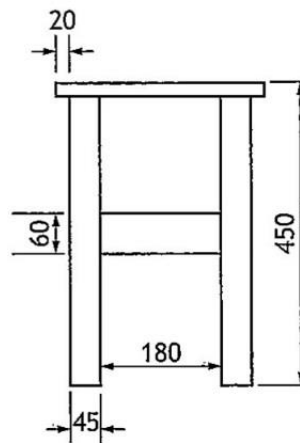
The diagram below shows the working drawings for the table.



Plan

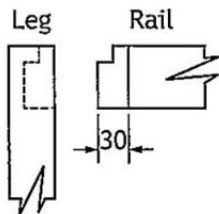


Elevation

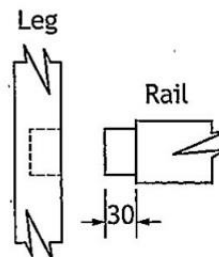


End Elevation

Front rail



Side rail



Note: The rails are joined to the legs using the joints shown in the drawings above. All sizes are in millimetres.

2. (continued)

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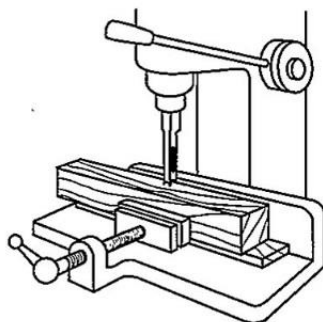
- (a) Complete the cutting list below, using the information provided in the working drawings shown opposite.

6

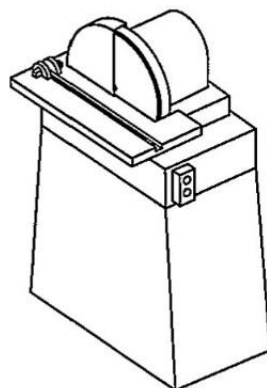
Part	Number	Length	Breadth	Thickness
Table top long edge	2	460	50	20
Table top short edge	2	310	50	20
Front Rails	2	390	60	18
Side Rails	2	240	60	18
Legs	4	430	45	45

Various machines are used to make the table.

- (b) Name the machines shown below.



(i) Mortise Machine 1

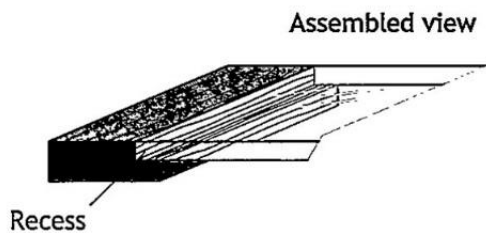
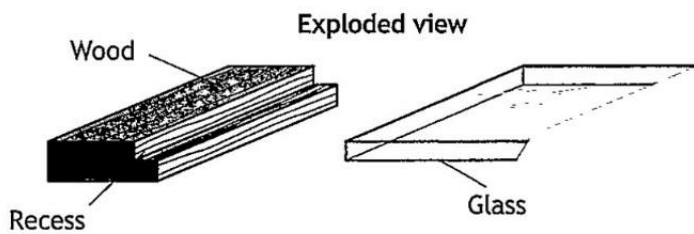
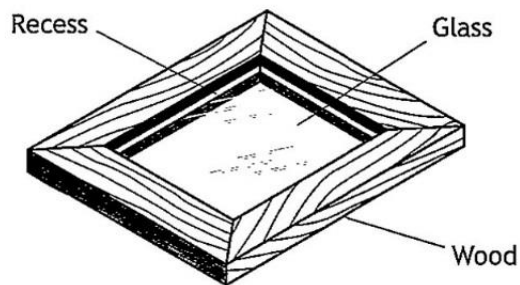


(ii) Disc Sander 1

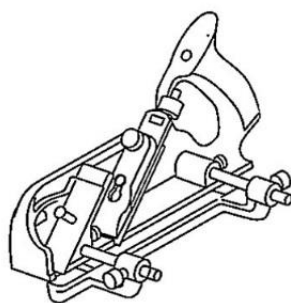
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2. (continued)

The table top has glass inserted, as shown below.



The hand tool shown below is used to cut the recess.



(c) Name this tool.

Rebate Plane

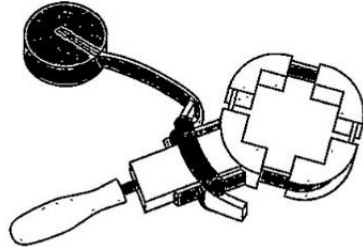
1



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1	
1	
1	
1	
1	

## 2. (continued)

The tool shown below is used during the assembly of the table top.



(d) Name this tool.

Band clamp

Before final assembly, the table top is dry cramped.

(e) Explain the purpose of dry cramping.

To ensure that all the pieces fit together properly and that no adjustments are needed

Glue is used to assemble the table.

(f) State the name of a wood glue.

PVA glue

Before a finish is applied to the table it is prepared using different grades of glass paper: fine, medium and coarse.

(g) State which grade of glass paper is used first.

Coarse

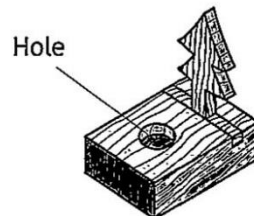
(h) Explain the purpose of wetting the wood before starting the final stage of sanding.

To bring out the grain.

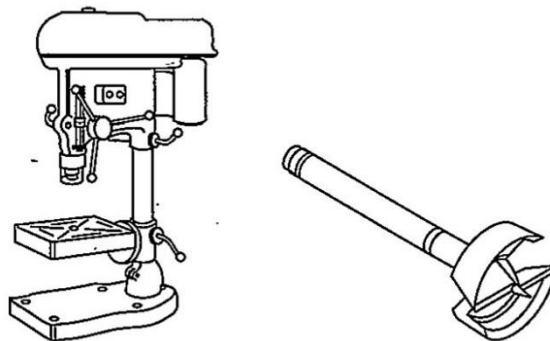
[Turn over

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3. A wooden tealight holder is shown below.



The diagrams below show the machine and forstner bit used to cut the hole in the tealight holder.



(a) (i) Name this machine.

1

Pillar drill

(ii) Explain why the forstner bit, shown above, was used to create the hole.

1

As it can create large holes in one go

## 3. (continued)

Health and safety is a priority when using the machine shown opposite.

- (b) Describe three health and safety checks that would be carried out on the machine before switching it on.

MARKS

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3

1 Make sure the chuck key has been removed

2 Make sure the the drill bit is secure in the drill and won't come loose endangering the user if it flies out.

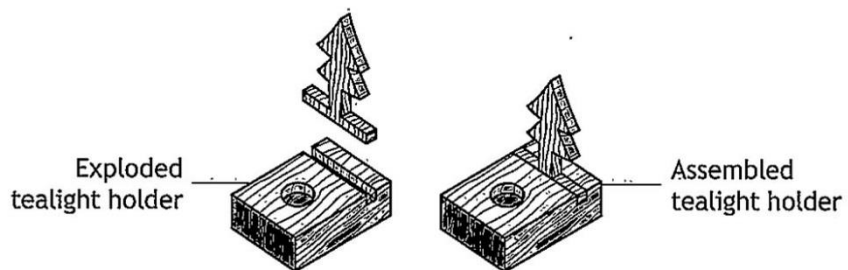
3 Make sure the guard is working and isn't broken.

[Turn over

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3. (continued)

The tealight holder is joined, as shown below.



(c) Name this joint.

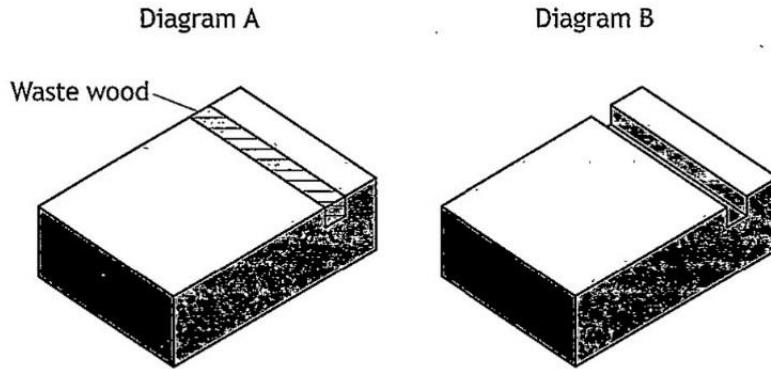
1

Through housing joint

MARKS  
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3. (continued)

Diagram A shows the marked out joint used in the tealight holder. Diagram B shows the wood that is removed.



(d) Describe three stages in cutting and removing the wood from the joint shown above. You may use sketches to support your answer.

3

Stage 1

Using a saw cut down the two lines until you come to the bottom line then stop

Stage 2

Using a chisel and mallet slowly ~~take~~ cut away the top layer of the waste wood and work your way down to where the saws stopped.

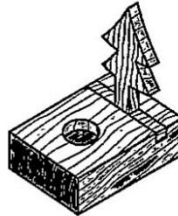
Stage 3

Using a router plane or chisel make sure the bottom of the joint is flat and level.

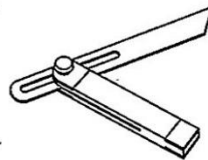
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## 3. (continued)

The tealight holder, shown below, is manufactured using various hand tools.



(e) Name the tools shown below and describe what they are used for.



(i) Name

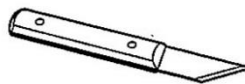
1

Angle Marker ?

(ii) Use

1

for marking angles on wood



(iii) Name

1

Marking Knife

(iv) Use

1

for making accurate lines on wood for marking.

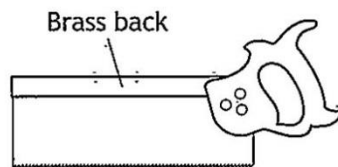
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3. (continued)

(f) Explain the purpose of the brass back on the tenon saw shown below.

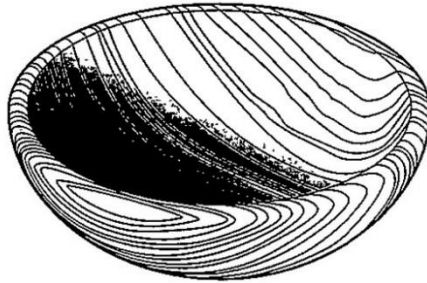
1



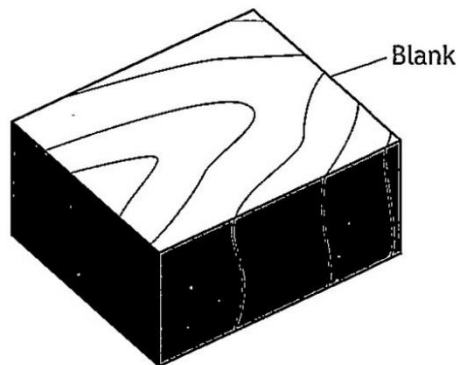
To give the saw support and make sure it  
doesn't wobble/move making a mess of your  
work

[Turn over

4. A wooden bowl is shown below.



The bowl is made from one piece of material called a blank, shown below.



The blank has to be prepared for the turning process before it is mounted on the woodturning lathe.

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## 4. (continued)

- (a) Describe two stages in the process of marking out the blank.

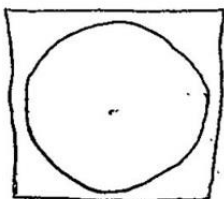
You may use sketches to support your answer.

The stages must be in the correct order.

2

## Stage 1

First mark the octagonal/circle shape on the wood.



## Stage 2

Mark on the back/plane part of wood the correct points to fit onto the machinery and create those points. Then make sure the piece is secure on the woodturning lathe.

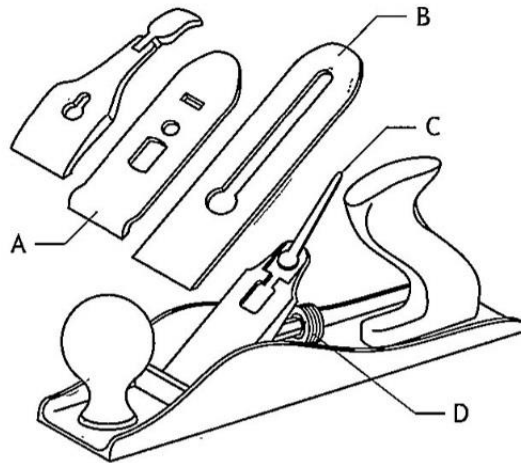
[Turn over

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4. (continued)

In preparing the top surface of the wooden blank before marking it out, a smoothing plane is used.

A diagram of the smoothing plane is shown below.

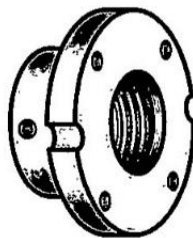


(b) Name parts A, B, C and D of the smoothing plane.

4

- A \_\_\_\_\_
- B Blade
- C lever
- D Tuning nut

The attachment for mounting the bowl on the woodturning lathe is shown below.



(c) Name this attachment.

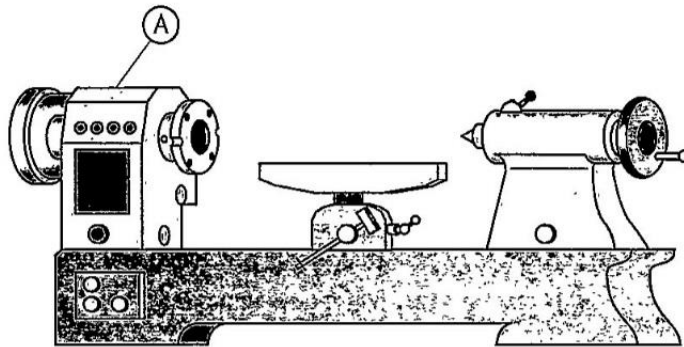
1

- cylindrical holder

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4. (continued)

The attachment is mounted onto the woodturning lathe shown below.



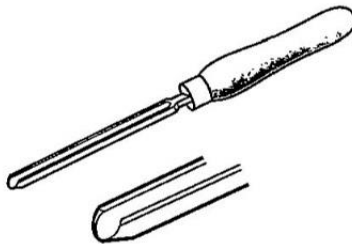
(d) Name part A shown above.

1

Headstock

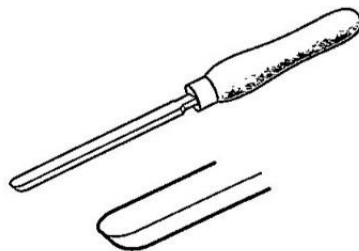
The tools shown are used to help shape the bowl on the woodturning lathe.

(e) Name the tools shown below.



(i) Spindle gauge

1



(ii) Round scraper

1

[Turn over

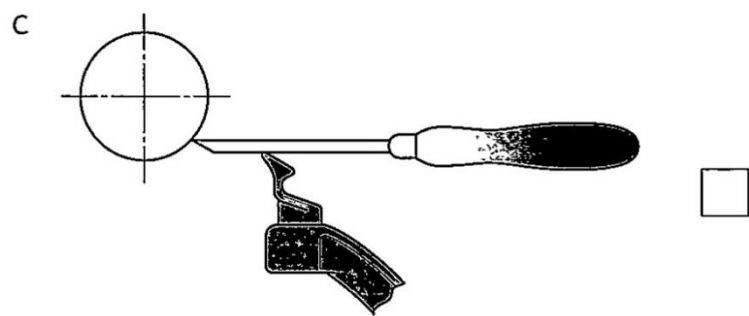
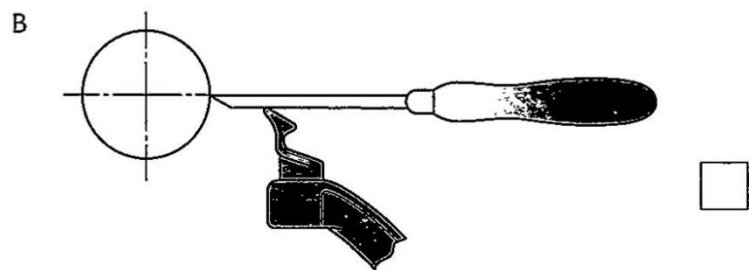
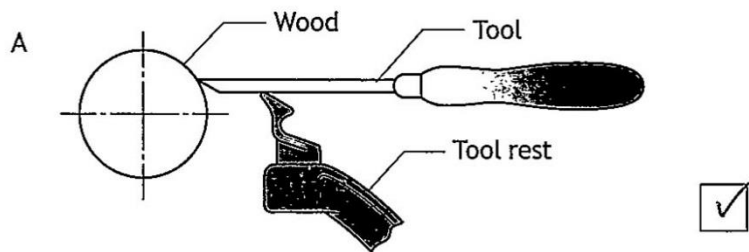
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**4. (continued)**

When shaping wood on the woodturning lathe it is important for safety reasons to have the cutting tool at the correct height.

(f) Identify the correct tool height by ticking one of the boxes below.

1



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## 4. (continued)

A varnish finish is to be applied to the bowl. The bowl is prepared for varnishing while still on the woodturning lathe.

- (g) Describe three actions that will ensure a good quality surface finish is achieved before applying the varnish.

3

- 1 ~~first~~ Sand the piece with coarse sandpaper and make sure the bowl is all in the correct shape.
- 2 Sprinkle the bowl with water then sand again with medium sandpaper and round all the edges making them curved and not sharp.
- 3 Sprinkle the bowl again with water and then using fine sandpaper make sure everything is flat and smooth, then brush away any pieces of sawdust and make sure the work piece is clean.

Health and safety in a workshop is a priority.

- (h) Describe three personal safety precautions you would take before switching on the woodturning lathe.

3

- 1 Make sure your long hair is tied back and any loose items are tucked in, eg. tie.
- 2 Make sure you have safety goggles on so to protect your eyes from any flying wood chips.
- 3 Make sure you are wearing an apron to stop the wood chips from damaging your clothes.

## 4. (continued)

The bowl is made from wood left over from another project.

- (i) Explain the reason why this is environmentally friendly.

As you are using wood which otherwise would have  
been thrown away and wasted. Therefore sparing wood  
which adds up to saving a tree.

[END OF QUESTION PAPER]

MARKS

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1

ADDITIONAL SPACE FOR ANSWERS

MARKS

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~~325 + 45 + 45 + 20 + 20~~

~~180 + 90 + 46~~

~~3301 90 + 46~~