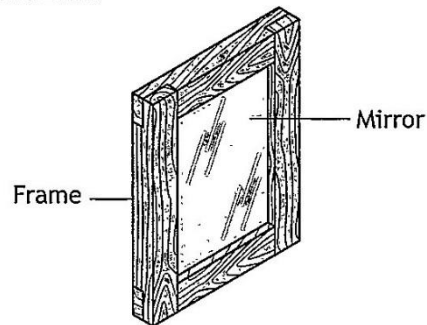


# Candidate 4 evidence

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Total marks — 60  
Attempt ALL questions

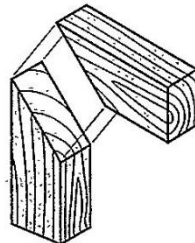
1. A mirror is shown below.



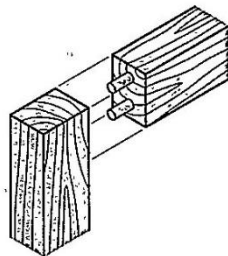
The mirror frame is made using corner halving joints.

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

(a) Name the joints shown.



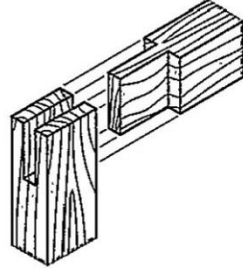
(i) Mitre joint. 1



(ii) Dowel joint. 1

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1. (a) (continued)



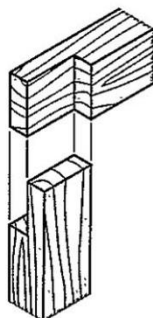
(iii) through mortise and tenon. 1

[Turn over

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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.

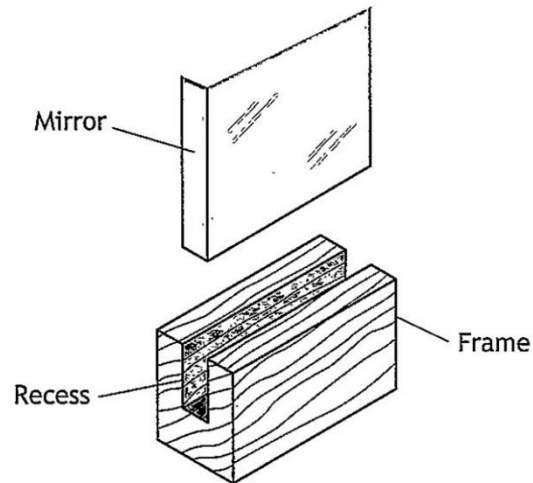
3

Sequence	Process
Stage 1	Clamp the wood
Stage 2	Use marking gauge to measure where to cut.
Stage 3	mark out lines of where to cut.
Stage 4	Mark the waste wood.

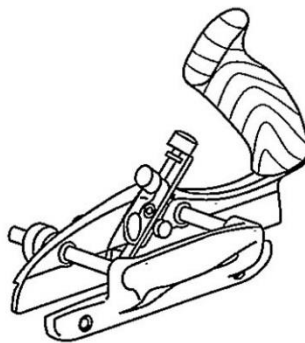
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1. (continued)

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. -

1

Smoothing plane

[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 Cheaper than hardwoods.
- 2 Faster to grow.

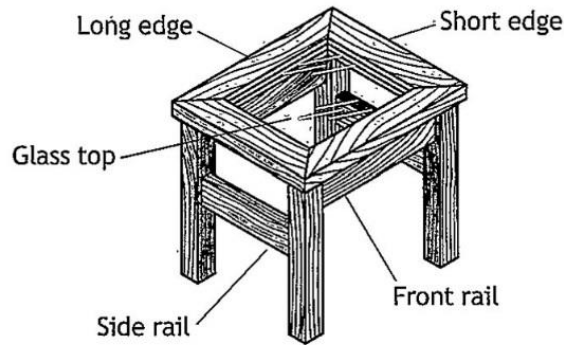
The mirror frame requires a finish to be applied which will protect the wood and show off the natural wood grain.

(f) State a suitable finish.

1

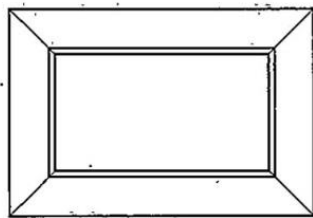
Varnish.

2. A table is shown below.

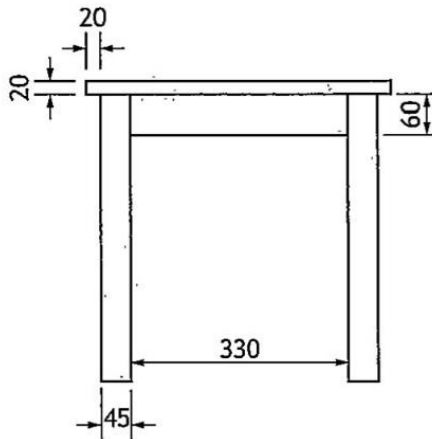


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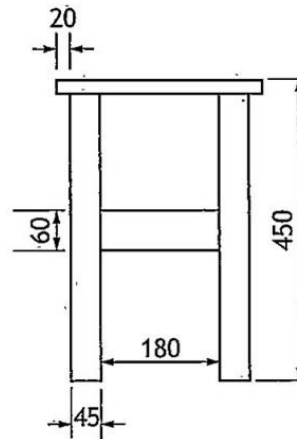
The diagram below shows the working drawings for the table.



Plan

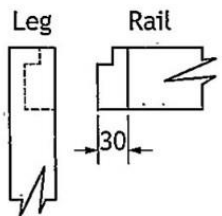


Elevation

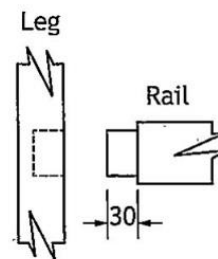


End Elevation

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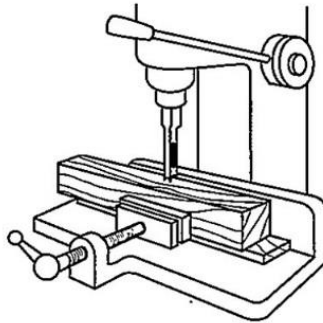
- (a) Complete the cutting list below, using the information provided in the working drawings shown opposite.

6

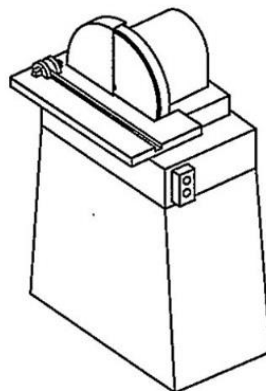
Part	Number	Length	Breadth	Thickness
Table top long edge	2	460.	50	20
Table top short edge	2	310.	50	20
Front Rails	2	330.	60	18
Side Rails	2	180	60	18
Legs	4	430.	45	45

Various machines are used to make the table.

- (b) Name the machines shown below.



(i) mortise drill 1

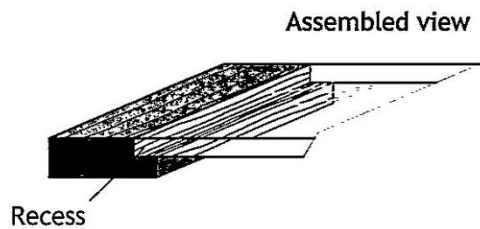
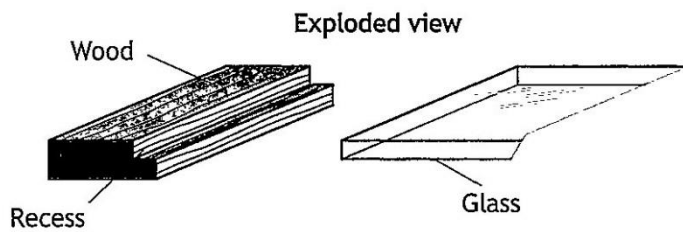
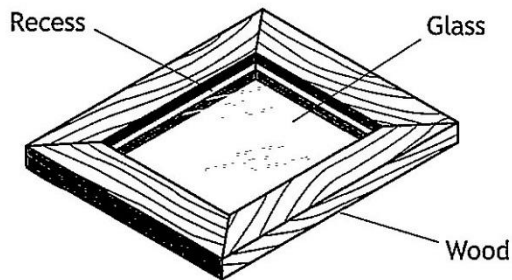


(ii) Disc sander. 1

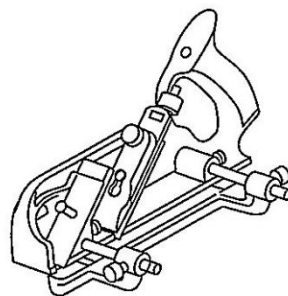
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2. (continued)

The table top has glass inserted, as shown below.



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



(c) Name this tool.

Handheld router.

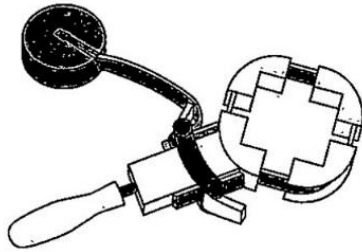
1



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## 2. (continued)

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



(d) Name this tool.

1

Belt clamp.

Before final assembly, the table top is dry cramped.

(e) Explain the purpose of dry cramping.

1

TO make sure that everything is square and fits correctly.

Glue is used to assemble the table.

(f) State the name of a wood glue.

1

PVA.

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.

1

Coarse

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

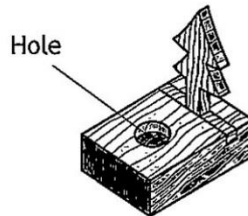
1

It raises the grain.

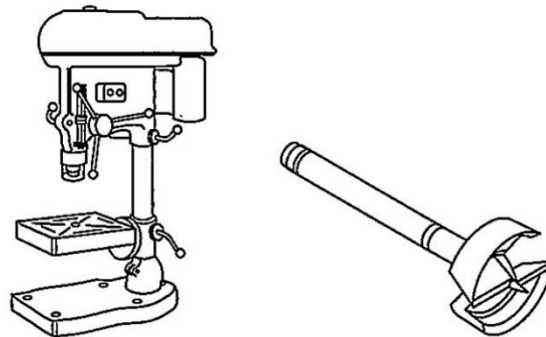
[Turn over]

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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

To make sure the bottom  
of the hole would be flat for  
a tealight to sit in.

## 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.

1 Drill bit is held straight and secure.

2 Guard is in place.

3 Feed is held tightly.

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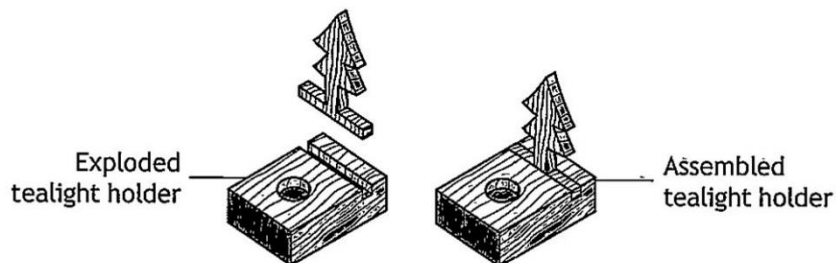
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3. (continued)

The tealight holder is joined, as shown below.



(c) Name this joint.

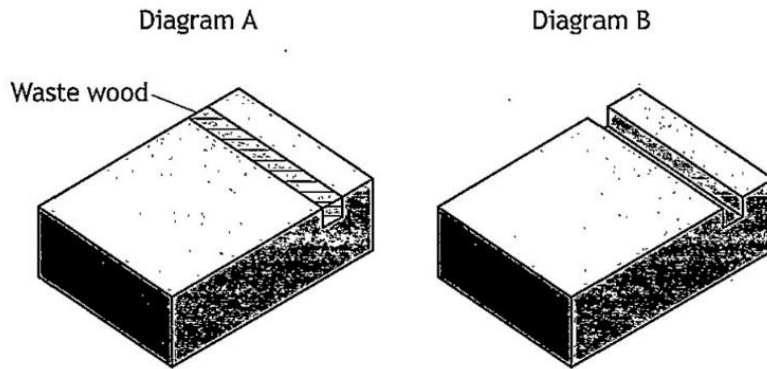
1

Through housing

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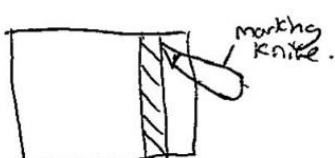
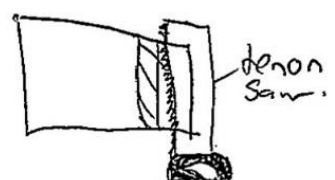
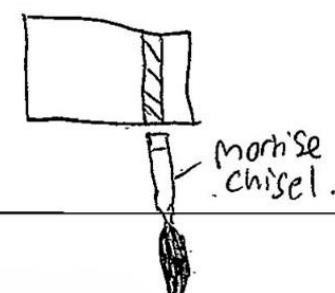
3. (continued)

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.

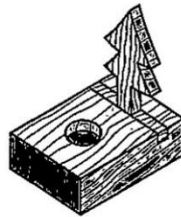
3

<p>Stage 1</p> <p>Run marking knife along either side of waste material</p>	 <p>marking knife.</p>
<p>Stage 2</p> <p><del>Run tenon saw</del> cut down the sides of waste material using tenon saw.</p>	 <p>tenon saw.</p>
<p>Stage 3</p> <p>Chisel out waste material using mortise chisel.</p>	 <p>mortise chisel.</p>

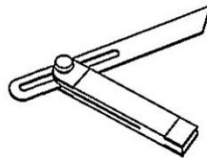
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3. (continued)

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

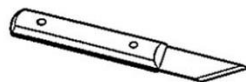
1

Angle Square

(ii) Use

1

Making sure angles are correct.



(iii) Name

1

marking knife

(iv) Use

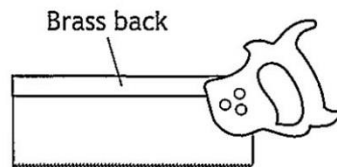
1

Making grooves for saw to cut down

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3. (continued)

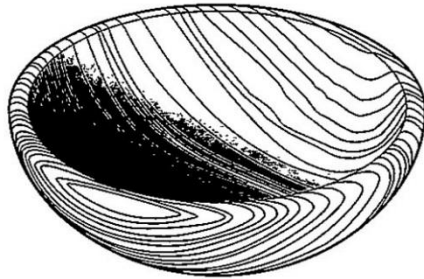
- (f) Explain the purpose of the brass back on the tenon saw shown below. 1



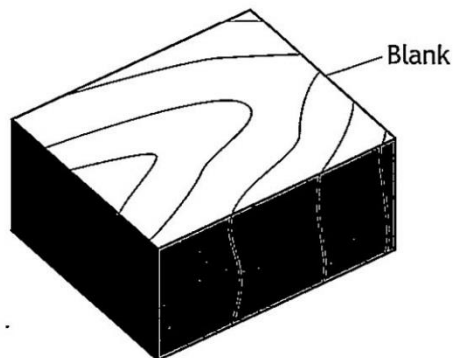
TO ensure that the saw does  
not bend.

[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.

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2

Stage 1

Draw diagonals on either side  
of the blank.

Stage 2

Cut down diagonals on one  
side using a tenon saw and  
use a nail punch to make  
a dent in the center of  
the other side.

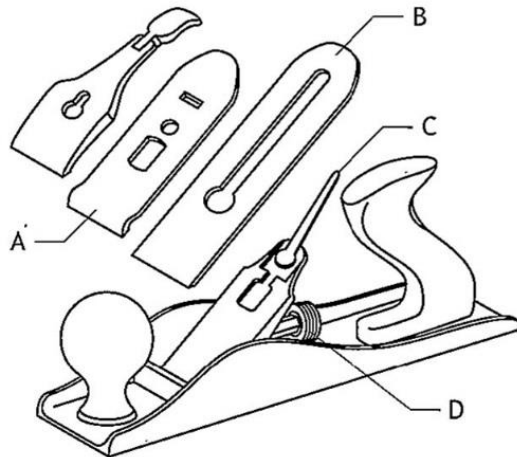
[Turn over

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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.

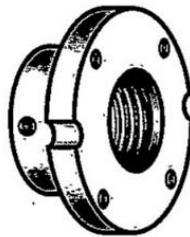


(b) Name parts A, B, C and D of the smoothing plane.

4

- A plate
- B plate
- C adjusting lever.
- D knob.

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



(c) Name this attachment.

1

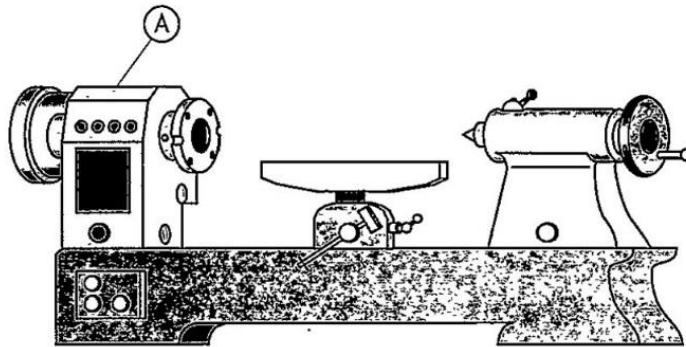
- Bowl attachment

MARKS

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4. (continued)

The attachment is mounted onto the woodturning lathe shown below.



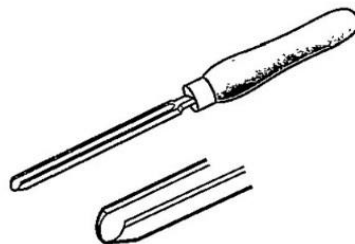
(d) Name part A shown above.

1

head stock.

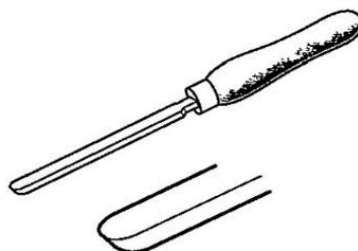
The tools shown are used to help shape the bowl on the woodturning lathe.

(e) Name the tools shown below.



(i) gouge.

1



(ii) knife.

1

[Turn over

4. (continued)

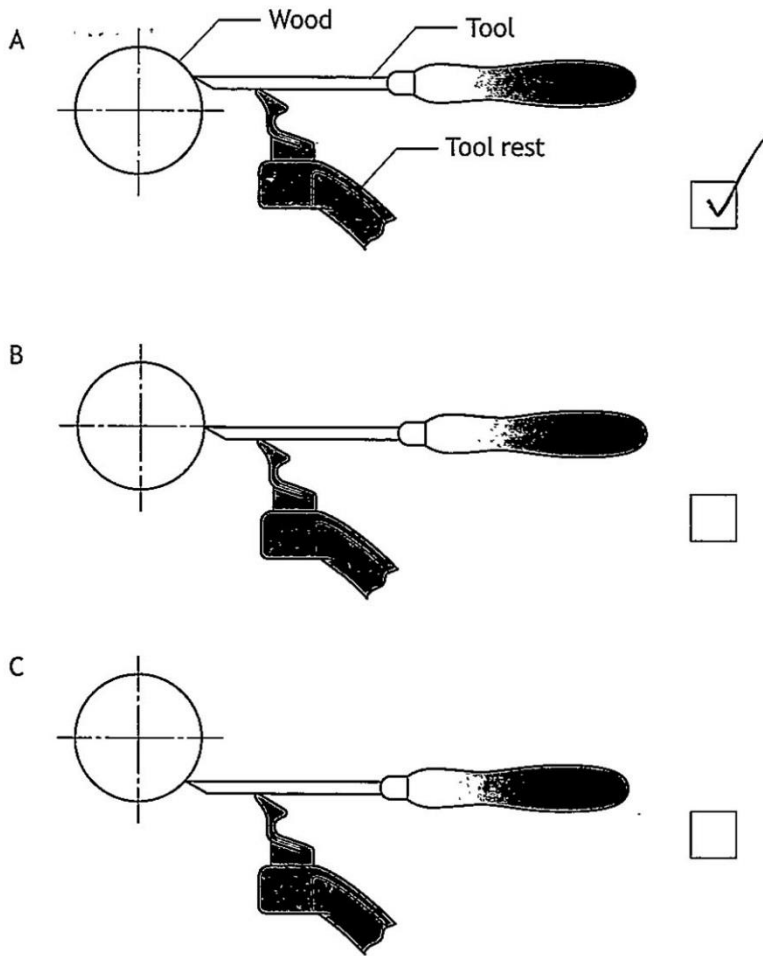
When shaping wood on the woodturning lathe it is important for safety reasons to have the cutting tool at the correct height.

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

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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 <del>smooth it down using glasspaper.</del>		
Pencil marks <del>are</del> removed using glasspaper		
2 Smoothed down using glasspaper		
3 shiny surface of by rubbing the wood with saw dust.		
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 long hair is tied back.		
2 wearing goggles-		
3 not wearing any loose clothing.		

MARKS	DO NOT WRITE IN THIS MARGIN
4. (continued)	
The bowl is made from wood left over from another project.	
(i) Explain the reason why this is environmentally friendly.	1
<u>Saves more wood getting cut to manufacture it.</u>	
[END OF QUESTION PAPER]	