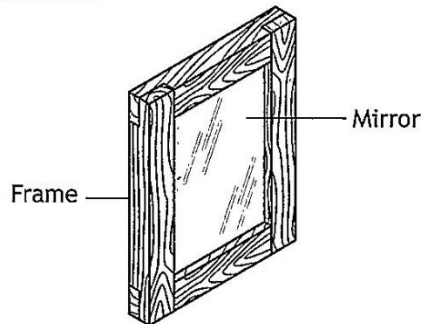


# Candidate 5 evidence

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Total marks — 60  
Attempt ALL questions

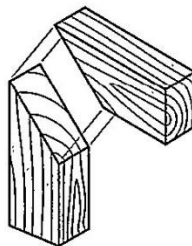
1. A mirror is shown below.



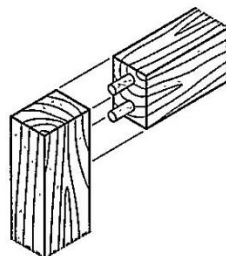
The mirror frame is made using corner halving joints.

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

(a) Name the joints shown.

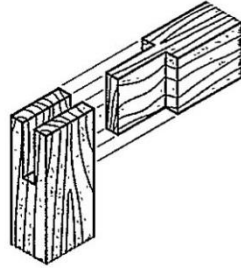


(i) Miter joint 1



(ii) Dowel 1

1. (a) (continued)



(iii) Mortise and tenon

1

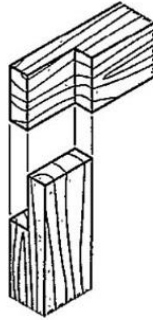
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[Turn over

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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.

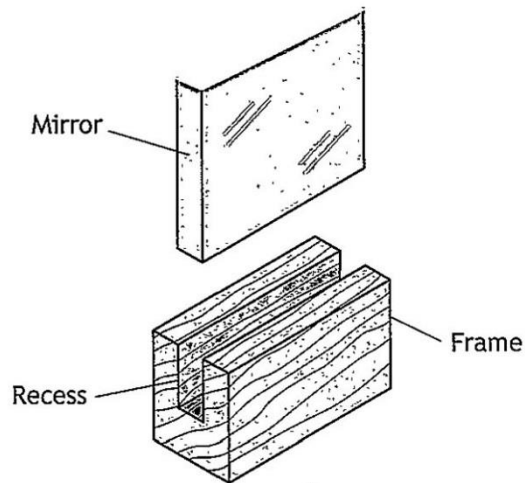
3

Sequence	Process
Stage 1	Mark out the first piece of wood
Stage 2	Mark out the second piece of wood
Stage 3	check that <del>they</del> they line up
Stage 4	Mark the waste wood.

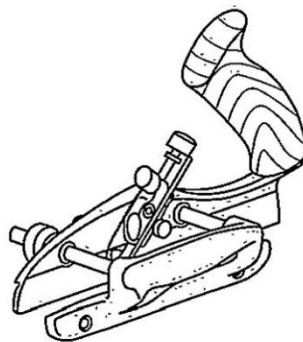
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1. (continued)

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

float 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)	Hardwood

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 Softwood take less time to grow therefore the tree numbers won't be damaged
- 2 Softwood trees are in most countries therefore there won't be as far travel lowering ~~fuel~~ ~~cost~~ ~~emissions~~ vehical gases

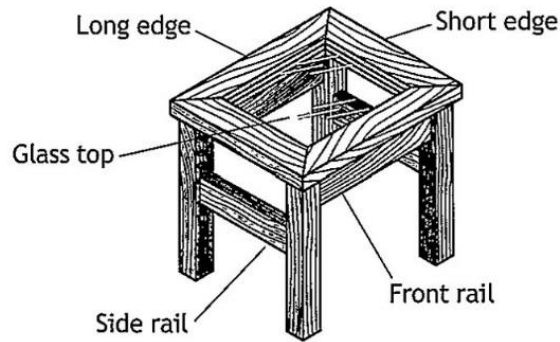
The mirror frame requires a finish to be applied which will protect the wood and show off the natural wood grain.

(f) State a suitable finish.

1

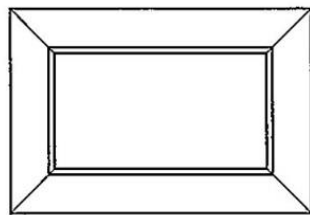
Varnish

2. A table is shown below.

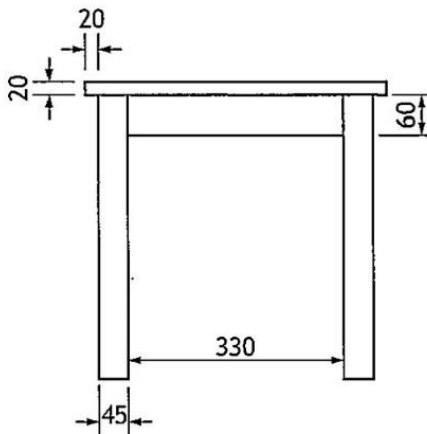


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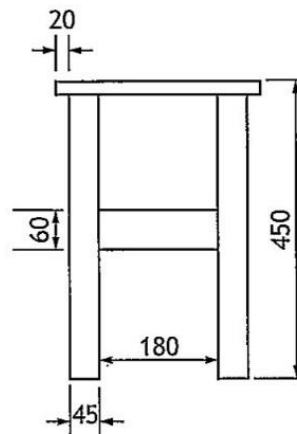
The diagram below shows the working drawings for the table.



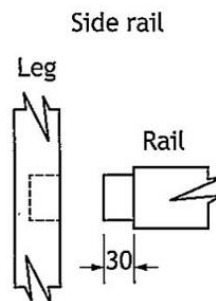
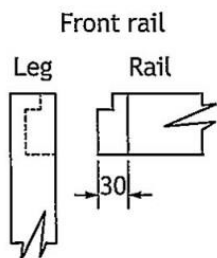
Plan



Elevation



End Elevation



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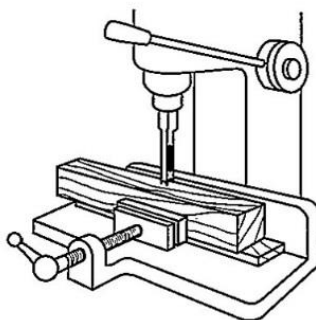
(a) Complete the cutting list below, using the information provided in the working drawings shown opposite.

6

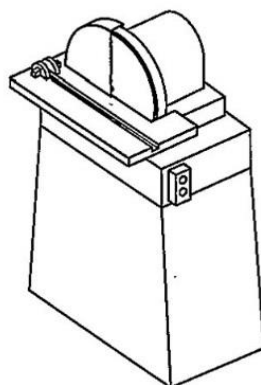
Part	Number	Length	Breadth	Thickness
Table top long edge	2	<del>400</del> 460	50	20
Table top short edge	2	<del>290</del> 290	50	20
Front Rails	2	<del>390</del> 390	60	18
Side Rails	2	240	60	18
Legs	4	430	45	45

Various machines are used to make the table.

(b) Name the machines shown below.



(i) Mortise Machine 1

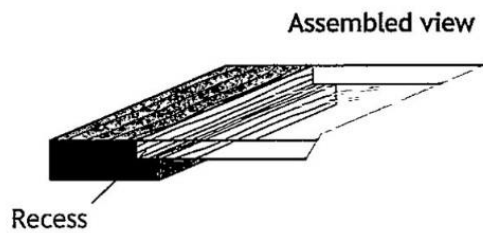
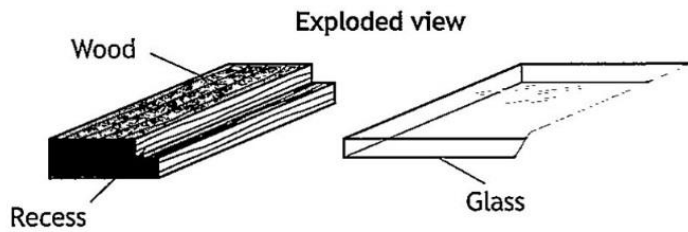
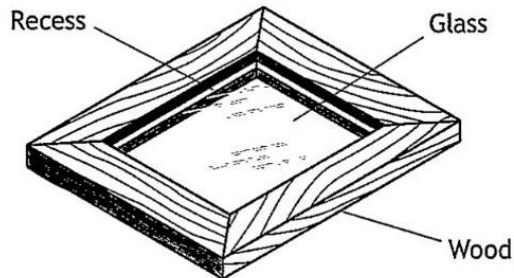


(ii) orbital sander 1

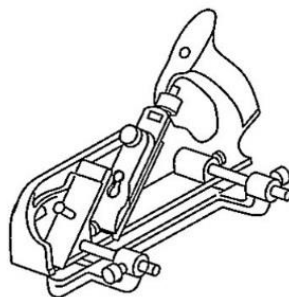
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2. (continued)

The table top has glass inserted, as shown below.



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

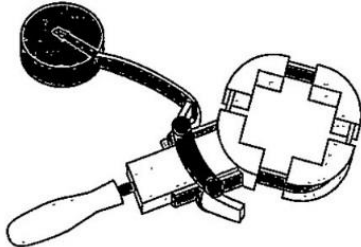


(c) Name this tool.

rebate plane

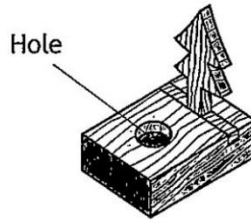
1



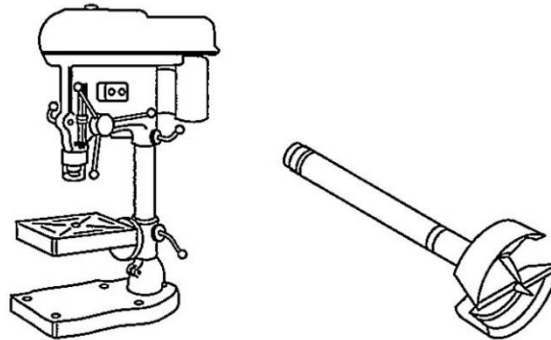
		MARKS	DO NOT WRITE IN THIS MARGIN
<b>2. (continued)</b>			
The tool shown below is used during the assembly of the table top.			
			
(d)	Name this tool.	1	
	<u>bolt board</u>		
Before final assembly, the table top is dry cramped.			
(e)	Explain the purpose of dry cramping.	1	
	<u>to make sure everything lines up and fits in place</u> <u>and to get the clamp at the correct distance</u>		
Glue is used to assemble the table.			
(f)	State the name of a wood glue.	1	
	<u>PVA</u>		
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	
	<u>Coarse</u>		
(h)	Explain the purpose of wetting the wood before starting the final stage of sanding.	1	
	<u>to raise the grain to get a better finish</u>		
[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 get an exact size and clean hole  
cut

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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.

3

1 that the drill bit is ~~secure~~ secure in the  
chuck

2 that the chuck key is removed

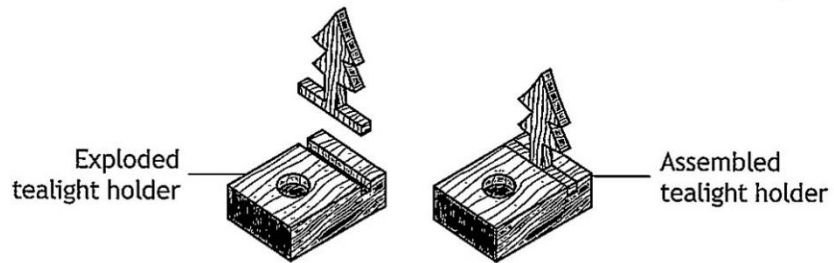
3 that the safety guard is down

[Turn over

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3. (continued)

The tealight holder is joined, as shown below.



(c) Name this joint.

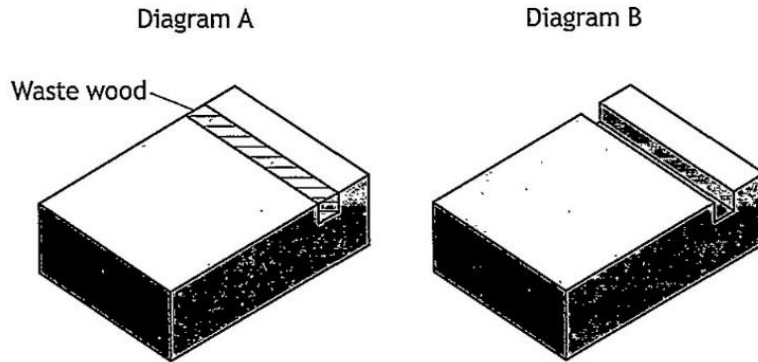
1

through housing joint

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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

cut on the inner side of bothe edges ~~edges~~

Stage 2

Start to chisle out the wood from Sust ~~best~~ below the top ~~cut~~ with a ~~with~~ carpenters mallet and ~~is~~ either a firmer chisle or a bevel edged chisle

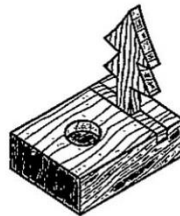
Stage 3

then take a hand rougher for the final ~~cut~~ removal of waste wood to get an even clean ~~is~~ cut/finish to the joint

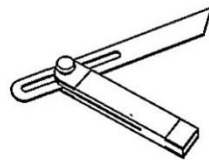
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3. (continued)

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

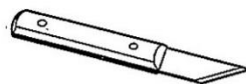
1

Sliding bevel

(ii) Use

1

to mark out angles next to an edge



(iii) Name

1

Marking knife

(iv) Use

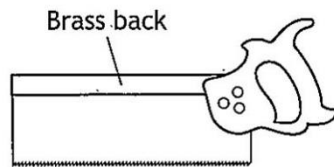
1

to mark out ~~the~~ lines on a piece of wood

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. (continued)

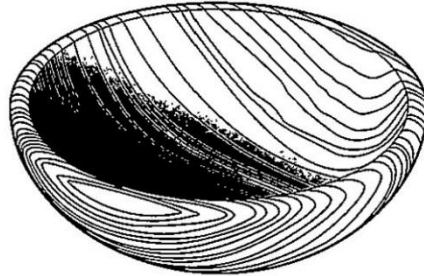
- (f) Explain the purpose of the brass back on the tenon saw shown below. 1



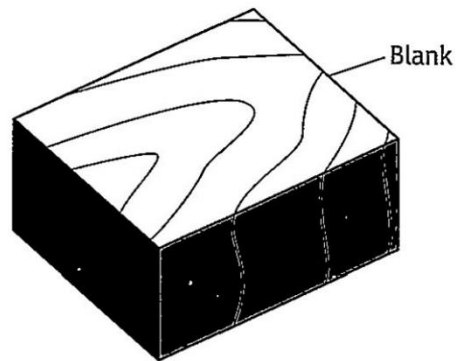
~~To stop you from trying to cut a~~ To stop you  
from using the tool to cut a piece of wood to thick for it

[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

Cross the corners ~~to find the centre~~  
~~of the wood~~

Stage 2

Use a compass to mark out a circle ~~on~~  
~~the wood~~  
Mark the centre

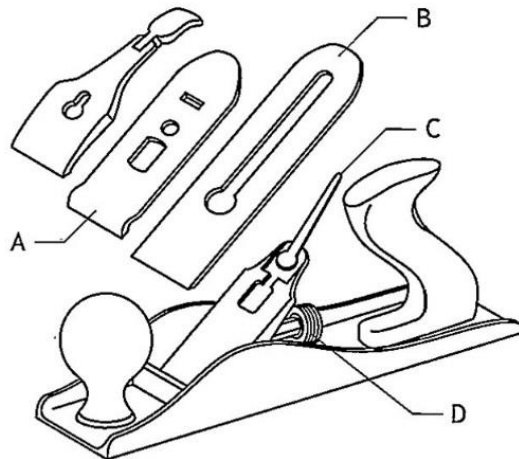
[Turn over

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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.

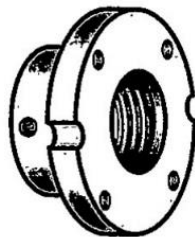


(b) Name parts A, B, C and D of the smoothing plane.

4

- A Keep blade cover
- B blade
- C Level
- D brass nut

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



(c) Name this attachment.

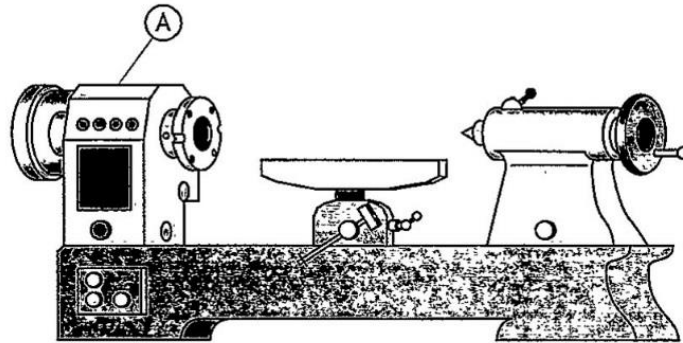
1

- face plate

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## 4. (continued)

The attachment is mounted onto the woodturning lathe shown below.



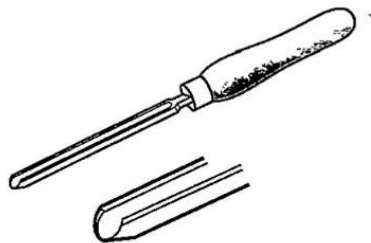
(d) Name part A shown above.

1

Head stock

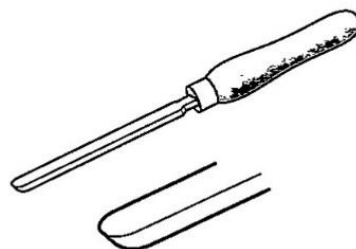
The tools shown are used to help shape the bowl on the woodturning lathe.

(e) Name the tools shown below.



(i) Gauge

1



(ii) Scraper

1

[Turn over

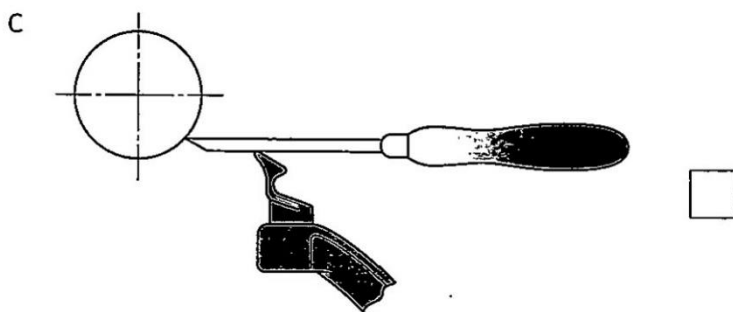
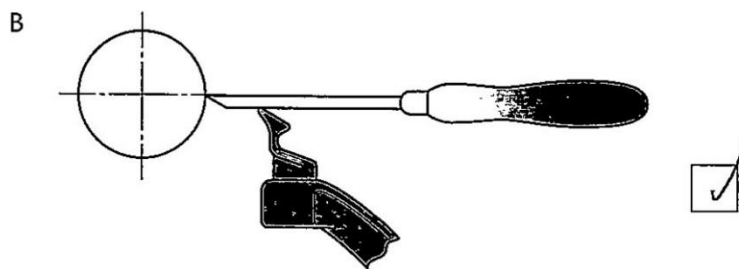
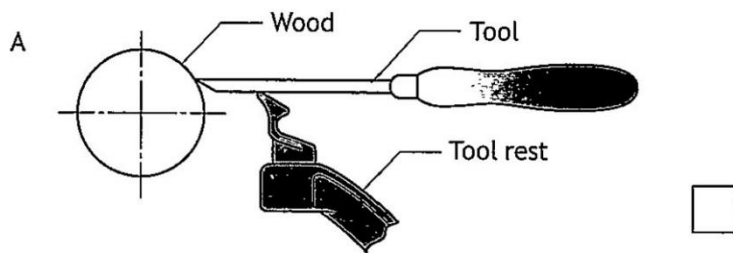
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4. (continued)

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 sand the wood rough ~~paper~~ glass paper

2 wet wood & slightly

3 sand with smooth glass paper

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 ~~the wood is secure~~ you have a face mask on

2 no loose clothing

3 you are wearing a dust mask

MARKS

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## 4. (continued)

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

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

1

it is recycling the wood for another purpose  
instead of wasting it & therefore using the whole tree

[END OF QUESTION PAPER]