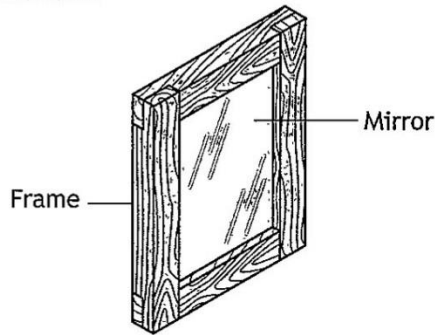


# Candidate 8 evidence

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Total marks — 60  
Attempt ALL questions

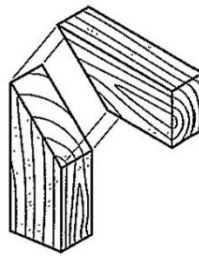
1. A mirror is shown below.



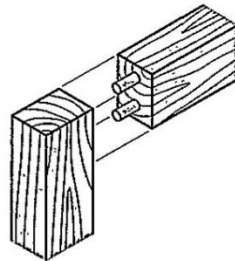
The mirror frame is made using corner halving joints.

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

(a) Name the joints shown.



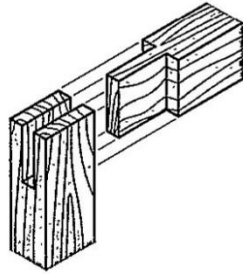
(i) MITRE JOINT. 1



(ii) DOWEL JOINT. 1

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1. (a) (continued)



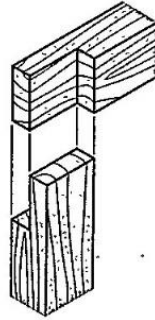
(iii) A CORNER BRIDAL JOINT 1

[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.

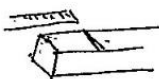

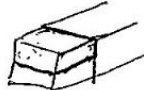
There are four stages in the marking out process.

- (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.

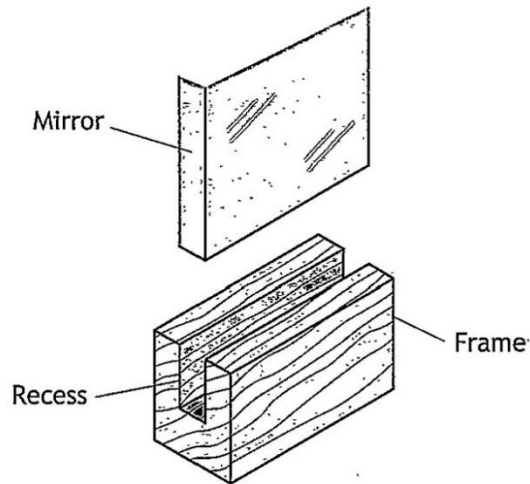
3

Sequence	Process
Stage 1	USE STEEL RULE TO MARK THE LENGTH OF THE JOINT ON BOTH PIECES.  USE TRISQUARE TO CHASE LINE AROUND.
Stage 2	MARK USING A MARKING GAUGE THE DEPTH OF THE JOINT ON EITHER SIDE. 
Stage 3	USING TRI SQUARE, MARK THE WIDTH ON THE END GRAIN WITH A PENCIL. 
Stage 4	Mark the waste wood.

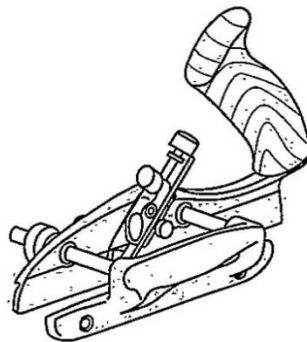
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1. (continued)

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 SOFTWOOD GROW FASTER THAN HARDWOODS  
AND SO ARE MORE SUSTAINABLE AND EASIER TO GROW.
- 2 SOFTWOOD GROW IN COLDER CLIMATE MOSTLY  
AND SO ARE MORE AVAILBLE IN SCOTLAND  
E.G. SCOTSPINE.

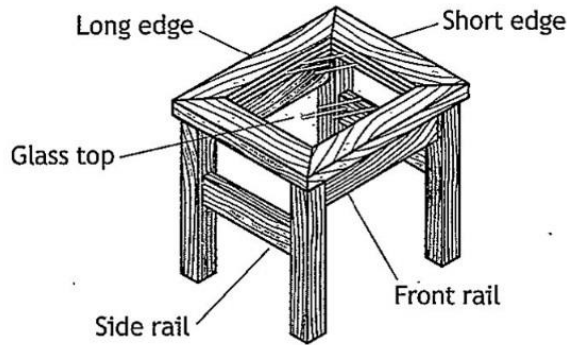
The mirror frame requires a finish to be applied which will protect the wood and show off the natural wood grain.

(f) State a suitable finish.

1

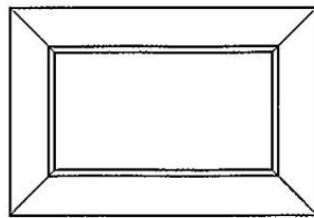
CLEAR VARNISH.

2. A table is shown below.

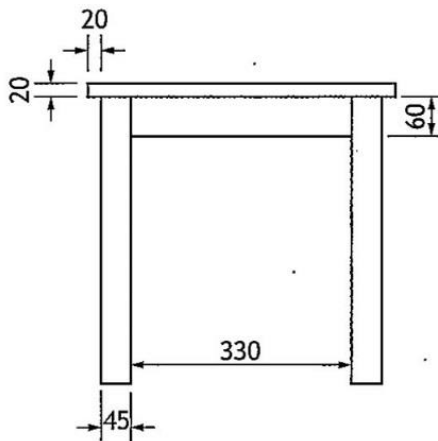


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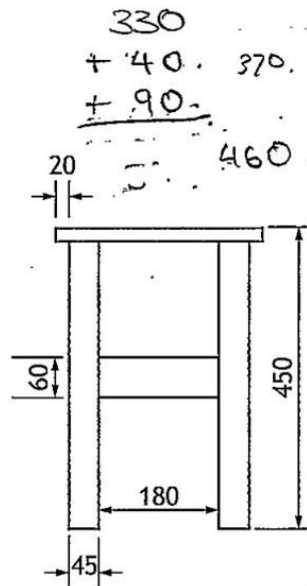
The diagram below shows the working drawings for the table.



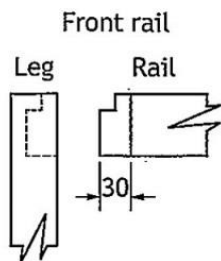
Plan



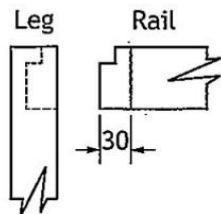
Elevation



End Elevation

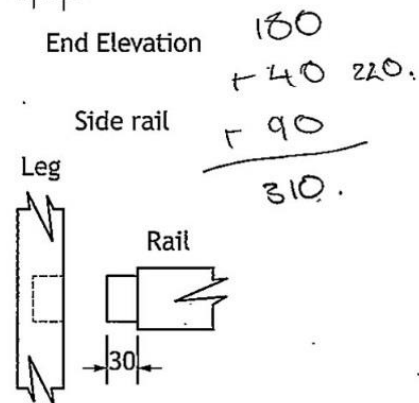


Front rail



Leg

Rail



Side rail

Leg

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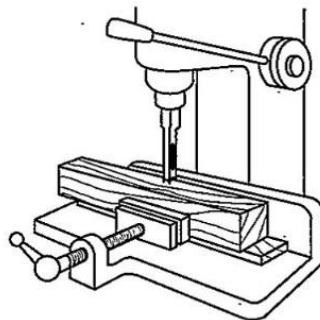
(a) Complete the cutting list below, using the information provided in the working drawings shown opposite.

6

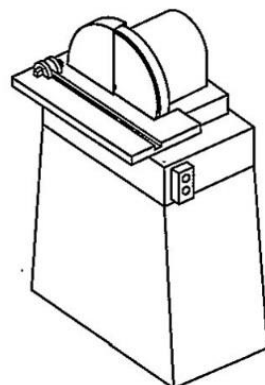
Part	Number	Length	Breadth	Thickness
Table top long edge	2	460.	50	20
Table top short edge	2	310.	50	20
Front Rails	2	390.	60	18
Side Rails	2	240.	60.	18
Legs	4	430.	45	45

Various machines are used to make the table.

(b) Name the machines shown below.



(i) A MORTISE MACHINE. 1

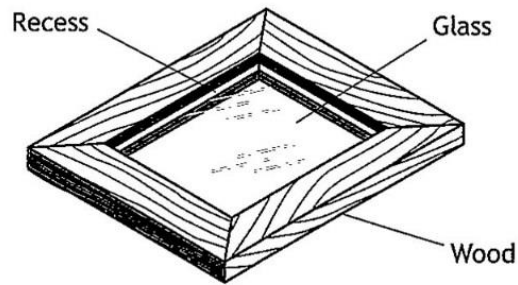


(ii) DRUM SANDER. 1

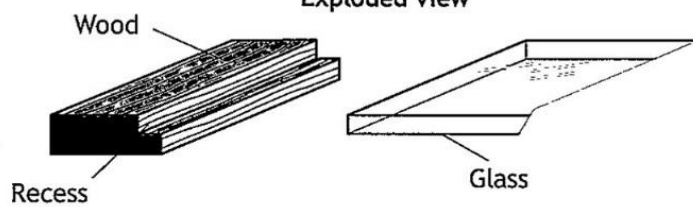
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2. (continued)

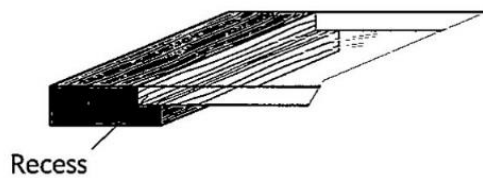
The table top has glass inserted, as shown below.



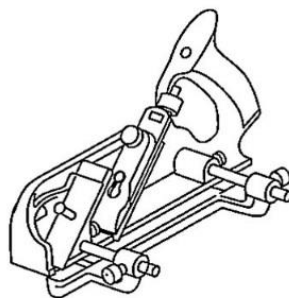
Exploded view



Assembled view



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



(c) Name this tool.

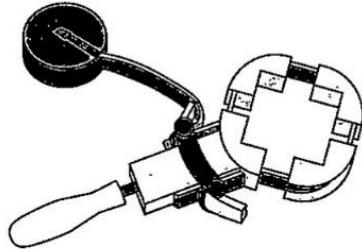
REBATE PLANE

1



## 2. (continued)

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



(d) Name this tool.

1

STRAP CLAMP

Before final assembly, the table top is dry cramped.

(e) Explain the purpose of dry cramping.

1

DRY CRAMPING IS DONE TO ENSURE

ALL ELEMENTS OF THE TABLE TOP FIT TOGETHER  
AND ARE SQUARE WITHOUT PERMANENTLY  
Glue is used to assemble the table. GIVEING THEM.

(f) State the name of a wood glue.

1

PVA ~~POLYVINYL~~ POLYVINYL CHLORIDE

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.

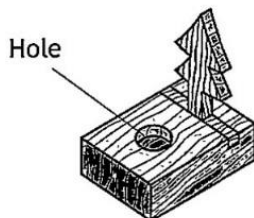
1

THIS IS TO BRING OUT THE GRAIN  
OR REMOVE ANY LEFT OVER DUST AFTER  
INITIAL SANDING.

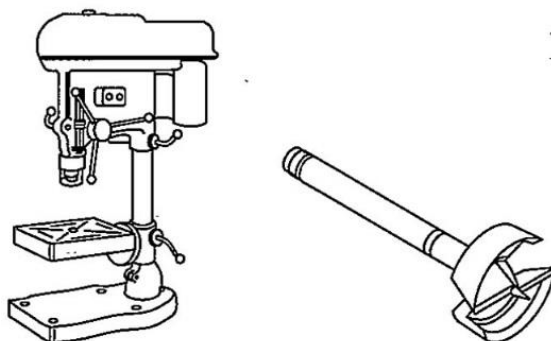
[Turn over

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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

A FORSTNER BIT WAS USE AS IT CREATES  
A WIDE HOLE BIG ENOUGH FOR A TEALIGHT  
BUT IT ALSO CREATES A FLAT BOTTOMED  
HOLE TO HOLD THE CANDLE INSECURELY.

## 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.

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3

- 1 YOU MUST ENSURE THAT THE CHUCK  
IS IN TACKED AND DRILL BIT IS  
GRIPPED BY ALL THREE ~~DRILL~~ TEETH.
- 2 YOU MUST CHECK THE GUARD  
IS SECURED DOWN AND IN  
TACKED NOT BROKEN OR CRACKED.
- 3 DEPTH STOP IS SET TO ADEQUATE  
DEPTH TO STOP DRILL BIT FROM  
~~BE~~ GOING DOWN TOO FAR INTO  
BED OF DRILL

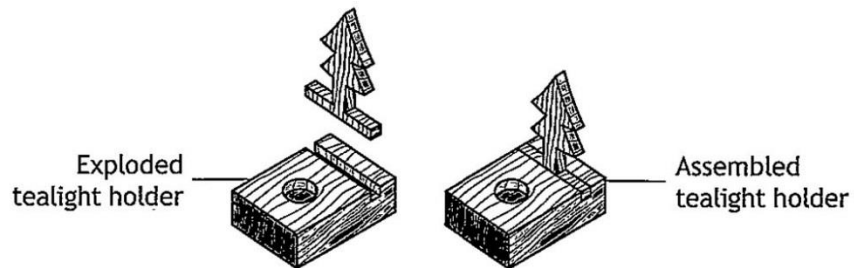
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## 3. (continued)

The tealight holder is joined, as shown below.



(c) Name this joint.

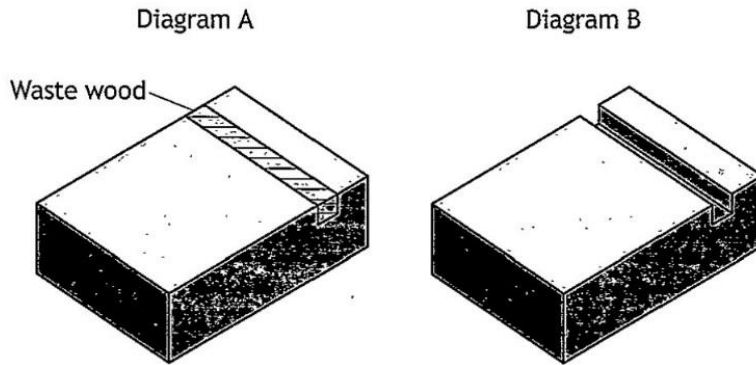
1

A THROUGH HOUSING JOINT.

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3. (continued)

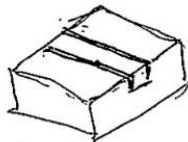
Diagram A shows the marked out joint used in the tealight holder. Diagram B shows the wood that is removed.



- (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 USING A TENON SAW CUT DOWN THE TWO LONG OUTER LINES OF THE JOINT DOWN TO THE DEPTH MARKED.



Stage 2 USING A THIN ~~WIDE~~ BEVEL EDGED CHISEL REMOVE THE WASTE MATERIAL STARTING FROM EITHER SIDE AND WORKING INWARDS. A MALET CAN BE USED TO KNOCK THE CHISEL WITH MORE FORCE

Stage 3 USE A ROUTER PLANE (GRANNY'S TOOTH) TO CLEAR OUT THE EXCESS WOOD AND ~~#~~ TIDY UP THE RIGHT ANGLES IN THE JOINT.

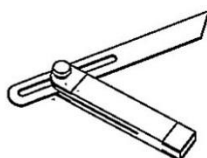
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3. (continued)

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

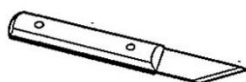
1

MITRE GAUGE

(ii) Use

1

CAN BE SET AND USED TO MARK SPECIFIC ANGLES ON THE SIDES OR ENDS OF WOOD



(iii) Name

1

MARKING KNIFE

(iv) Use

1

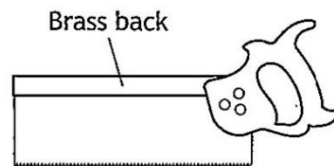
USED TO MARK END GRAIN WITH A THIN ACURATE LINE.

MARKS	DO NOT WRITE IN THIS MARGIN
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## 3. (continued)

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

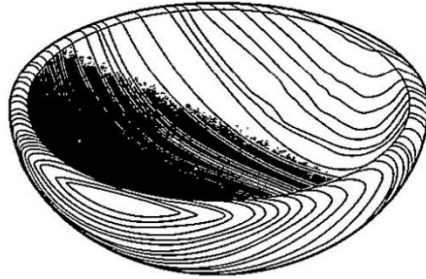
1



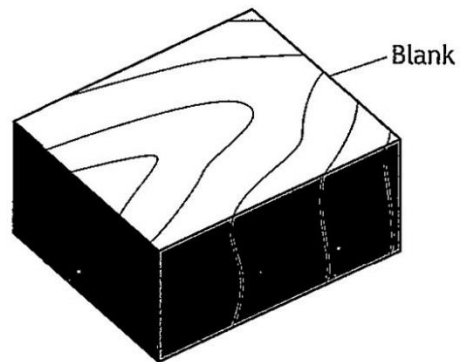
THIS IS TO STOP THE BLADE FROM  
FLEXING AND BENDING WHEN CUTTING.

[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.

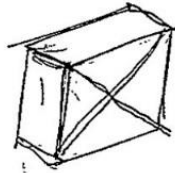
You may use sketches to support your answer.

The stages must be in the correct order.

2

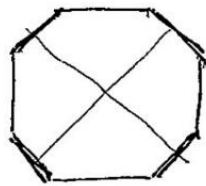
Stage 1

FIND THE CENTRE OF THE BLANK  
BY DRAWING FROM CORNER TO  
CORNER ON BOTH ENDS OF THE  
WOOD.



Stage 2

USE A PLANE ~~OR~~ TO  
CUT THE CORNERS OF THE  
BLANK TO ACHIEVE PROFILE  
SHOWN BELOW



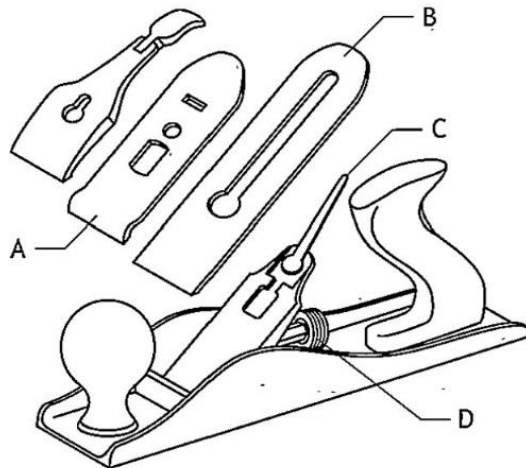
[Turn over

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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

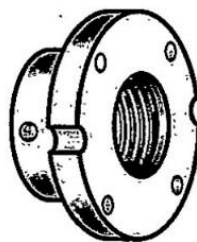
A FENCE

B THE BLADE.

C LATERAL ADJUSTMENT LEVER.

D BLADE DEPTH ADJUSTMENT KNOB.

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



(c) Name this attachment.

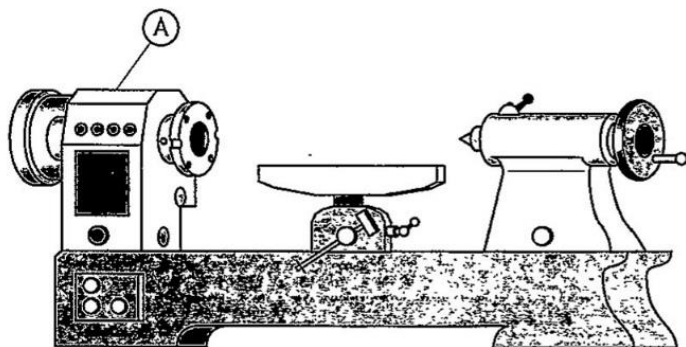
1

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4. (continued)

The attachment is mounted onto the woodturning lathe shown below.



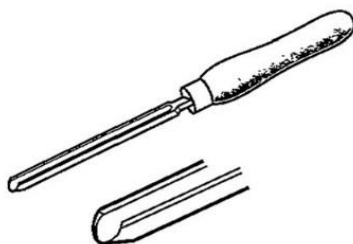
(d) Name part A shown above.

1

HEADSTOCK.

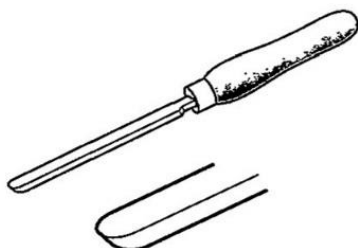
The tools shown are used to help shape the bowl on the woodturning lathe.

(e) Name the tools shown below.



(i) ~~ROUND GOUGE~~ GOUGE

1



(ii) ROUND SCRAPER.

1

[Turn over

MARKS

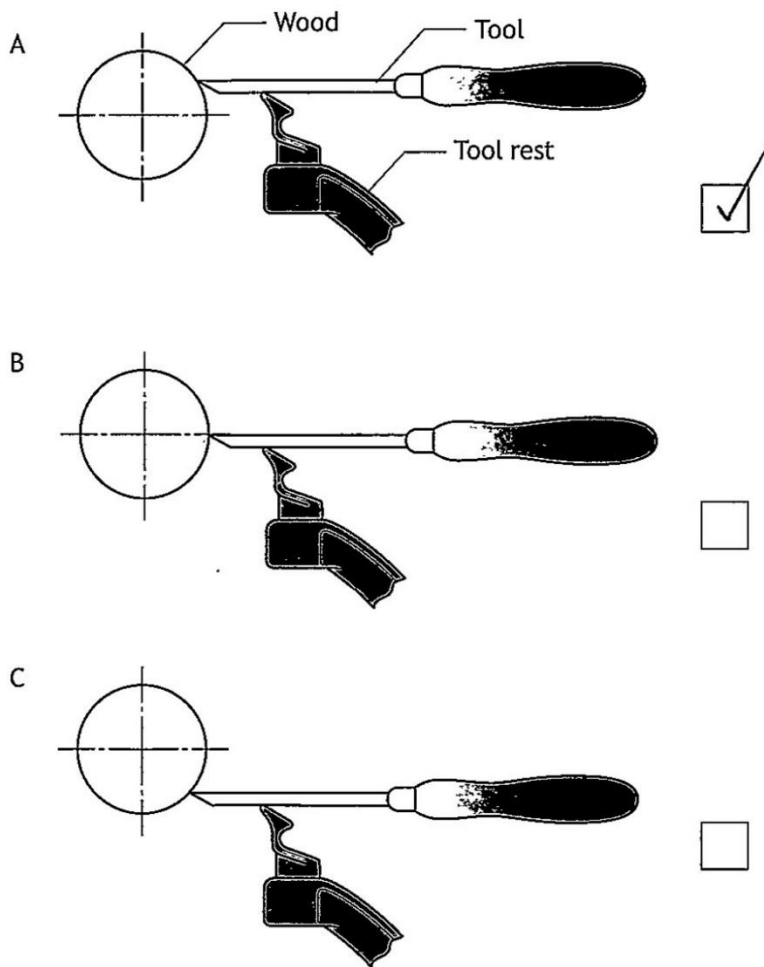
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4. (continued)

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



		MARKS	DO NOT WRITE IN THIS MARGIN
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	SHARP TOOLS ARE USED WHEN CUTTING AND SHAPING WOOD, SHARP TOOLS PROVIDE BETTER FINISH.		
2	VARYING LEVELS OF SAND PAPER ARE USED TO SMOOTH WOOD GOING FROM <del>ROUGH</del> ROUGH (COARSE) TO SMOOTH.		
3	<del>WAX</del> CLOTH IS USED TO Wipe DOWN SURFACE GETTING RID OF ANY EXCESS OR LEFT OVER DUST OR DIRT PARTICLES		
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	CHECK THAT THE WOOD CAN SPIN FREELY IN THE LATHE NOT CATCHING THE TOOL REST ETC.		
2	THERE IS NOTHING THAT COULD GET CAUGHT IN LATHE AND IF SO TIED BACK. EG TIE, HAIR APRON.		
3	SAFETY <del>AND</del> CLOTHING IS WORN EG FULL FACE MASK, GOGGLES, APRON.		
4	WORK AREA IS OBSTACLE FREE YOU HAVE SPACE TO MOVE, NO ONE ELSE IS IN YOUR WAY		

## 4. (continued)

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

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

1

THIS MEANS LESS WOOD IS USED AS IT  
WAS SCRAP. A NEW PIECE OF WOOD DIDN'T  
NEED TO BE SOURCED AND LESS TREES  
WILL UNNECESSARILY BE CUT DOWN AND USED.

[END OF QUESTION PAPER]

MARKS  
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