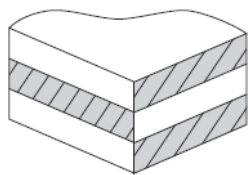


### Question 1

Which type of manufactured board is shown below? *(Please tick)*

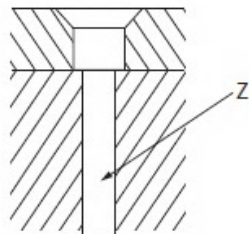


- Hardboard
- Plywood
- Chipboard
- Medium Density Fibreboard (MDF)

1

### Question 2

The diagram below shows how two pieces of wood are prepared for screwing together.



What is the correct name for the hole labelled Z? *(Please tick)*

- Clearance hole
- Countersink hole
- Shank hole
- Pilot hole

1

### Question 3

Which of the following is a **softwood**? *(Please tick)*

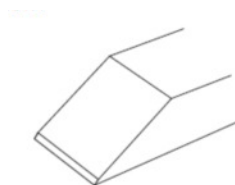
- Beech
- Mahogany
- Oak
- Spruce

1

### Question 4

Which type of chisel is shown below? *(Please tick)*

- Mortise
- Cold
- Bevel edged
- Gouge



1

**Question 5**

Which type of drill bit is shown below? *(Please tick)*

- Twist
- Countersink
- Auger
- Flat



1

**Question 6**

To which group from the list below does mahogany belong? *(Please tick)*

- Softwoods
- Hardwoods
- Manufactured boards
- Composites

1

**Question 7**

Which one of the following manufactured boards is made up of several layers glued together at right angles? *(Please tick)*

- Hardboard
- MDF
- Chipboard
- Plywood

1

**Question 8**

Which one of the tools listed below is used to mark a line at right angles to an edge? *(Please tick)*

- Mitre square
- Mortise gauge
- Try square
- Sliding bevel

1

**Question 9**

Which type of saw would be used to cut curves into 6mm thick plywood? *(Please tick)*

- Tenon saw
- Hacksaw
- Coping saw
- Dovetail saw

1

**Question 10**

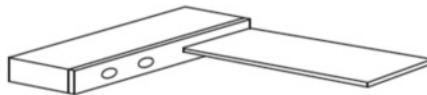
Which of the following is **NOT** a manufactured board? (*Please tick*)

- Hardboard
- Plywood
- Beech
- MDF

1

**Question 11**

What is the tool shown below used for? (*Please tick*)



- Measuring angles
- Marking out and checking right angles
- Marking lines parallel to an edge
- Measuring small distances

1

**Question 12**

Fig. 1 shows a sign that will be positioned in a school corridor to give directions. The sign is made from 15mm thick hardwood.

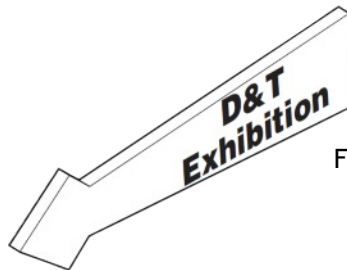


Fig. 1

a) Fig. 2 shows the sign marked out on a piece of hardwood ready to be cut to shape.

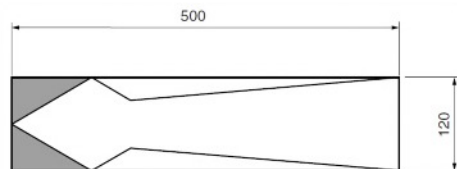


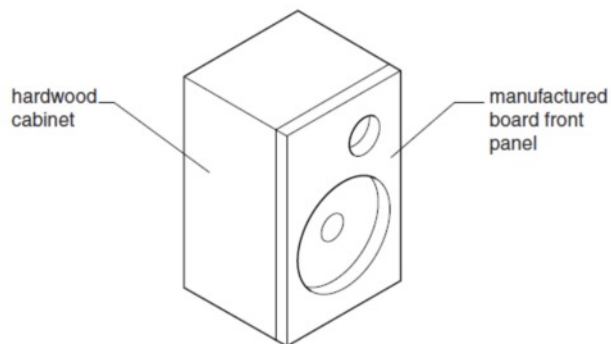
Fig. 2

With reference to workshop hand tools, describe how the shaded areas would be removed and the shape made flat and smooth.

2

**Question 13**

A speaker cabinet is shown below.



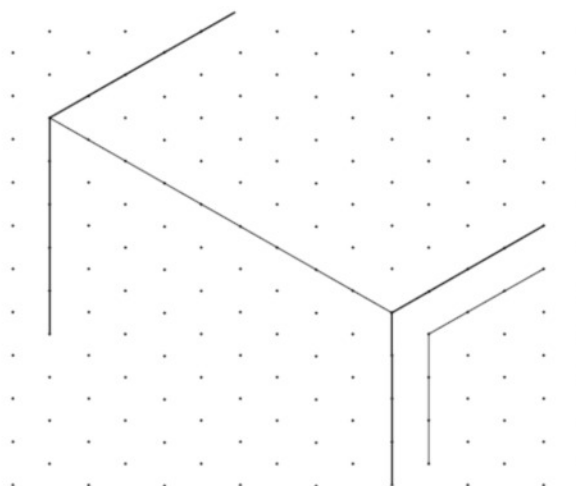
(a) (i) State the name of a suitable **hardwood** for the speaker cabinet.

1

(ii) State **one property** of your chosen material that makes it suitable for the speaker cabinet.

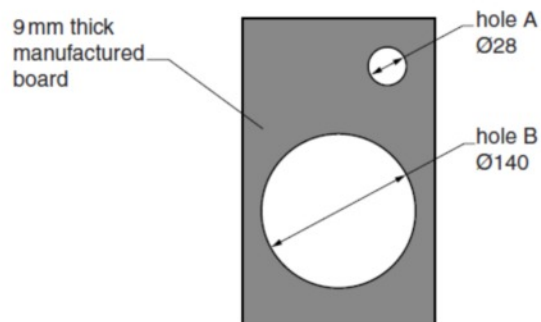
1

(b) The speaker cabinet is constructed using a finger/ comb joint. Complete the sketch below to show a finger /comb joint.



3

(c) The front panel of the speaker cabinet is shown below.



State one suitable drill bit that could be used in the pillar drill to make **Hole A**.

1

(d) Describe how **Hole B** could be cut out of the front panel using workshop tools. *You may use sketches to help illustrate your answer.*

4

(e) The speakers are to be sprayed with clear varnish. Spraying the varnish is **easier and quicker** than using a brush.

State **one more** advantage of spraying the varnish instead of applying with a brush.

1

(f) State **two advantages** and **two disadvantages** of using manufactured boards over natural wood.

Advantage 1:

Advantage 2:

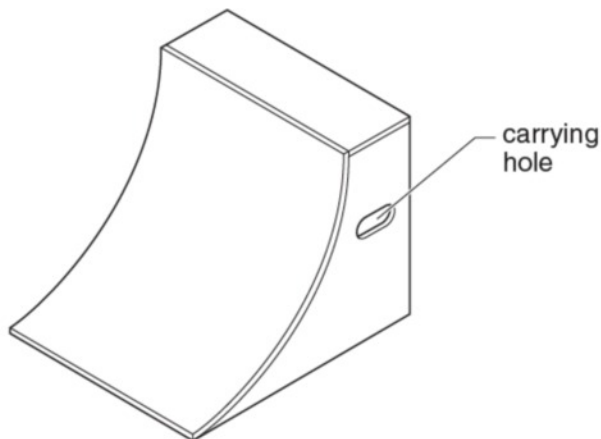
4

Disadvantage 1:

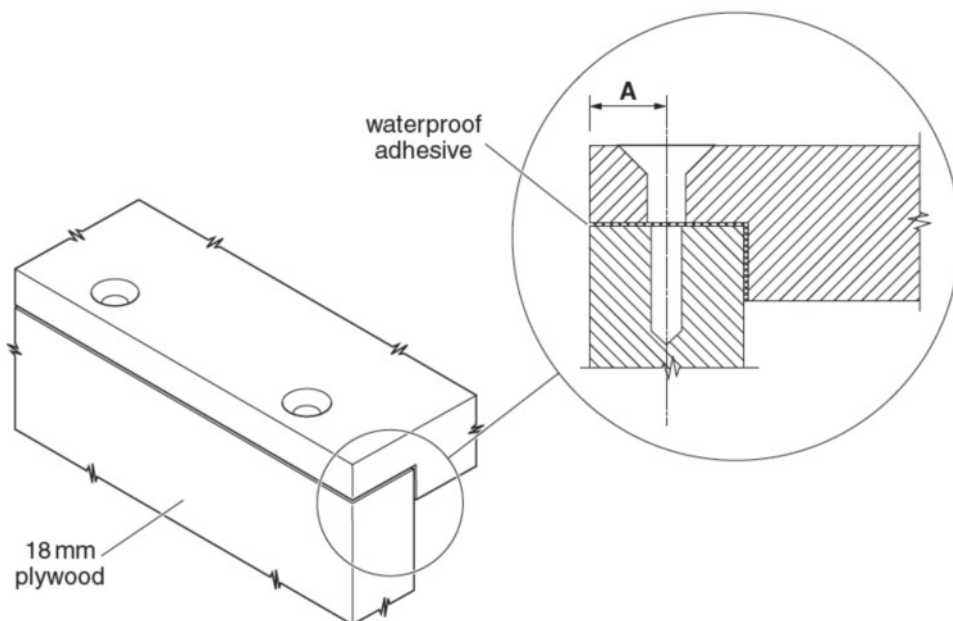
Disadvantage 2:

**Question 14**

A ramp for a skateboard or BMX bike is shown below. The ramp is made from 18mm plywood sheet.



The ramp is glued and screwed together. The drawing below shows one of the corner joints.



(a) Name the type of joint shown.

(b) State a suitable size for dimension A.

(c) The table below shows four types of wood screw. Tick the most suitable screw for this joint.

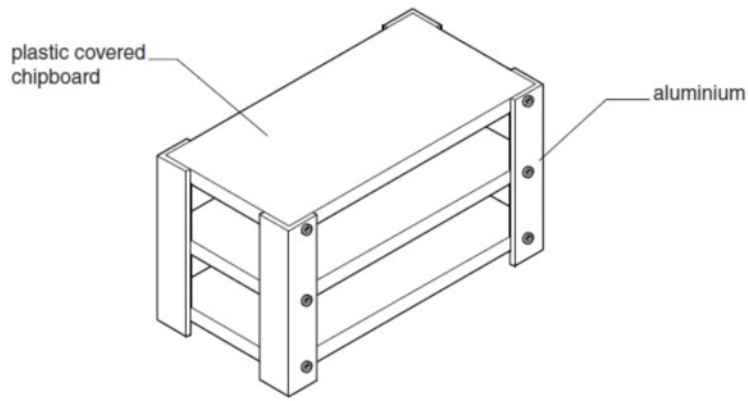

1

1

1

**Question 15**

Shown below is a workshop shelving unit.



(a) The shelves are made from *plastic covered chipboard*.

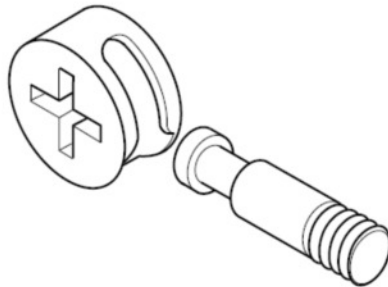
(i) State two other types of manufactured boards.

1.

2.

(ii) State one reason why the chipboard has been covered in plastic.

(b) Knock-down fittings have been used to join the stand together.



(i) State the name of the type of knock-down fitting shown above.

(ii) State the name of the tool required to tighten the knock-down fitting.

(iii) State two reasons why knock-down fittings have been used for the shelving unit rather than wood screws.

1.

2.

2

1

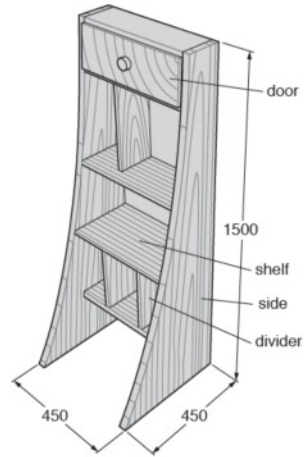
1

1

2

**Question 16**

A storage unit for use in a bedroom is shown.



(a) The unit is manufactured from **18mm thick veneered MDF**.

State the name of a suitable **hardwood** that could be used to veneer the MDF.

1

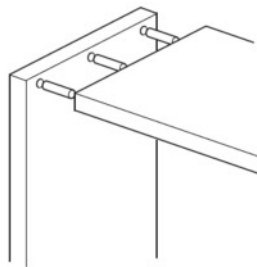
(b) State two benefits, *other than cost*, of using veneered MDF for the unit instead of solid wood.

1.

2.

2

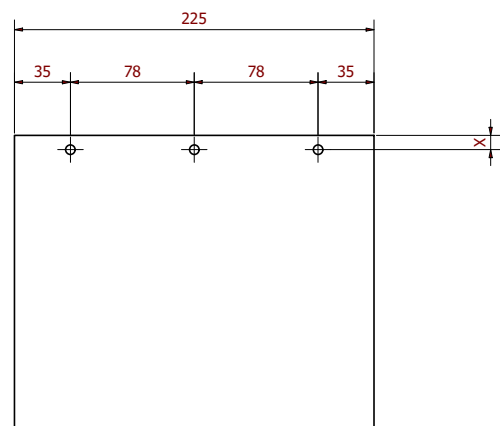
(c) The drawing below shows how the top is attached to the sides of the unit.



(i) State the name of the joint shown.

1

(ii) State the missing size given at X.



1

(d) The holes will be drilled with a standard twist drill bit.

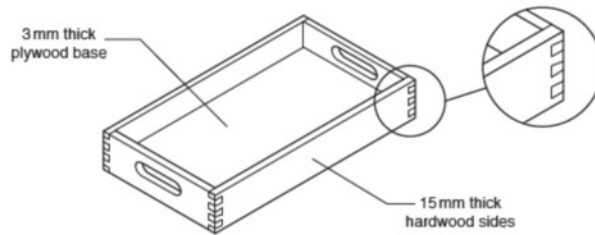
Explain how the diameter of the drill bit will be determined when making this joint.

1

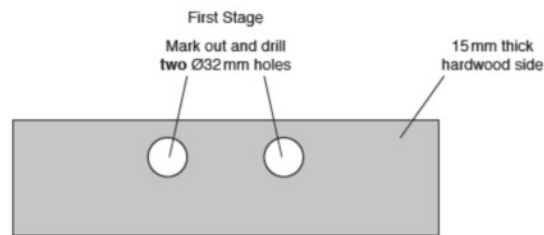


**Question 17**

Below is a wooden food tray.



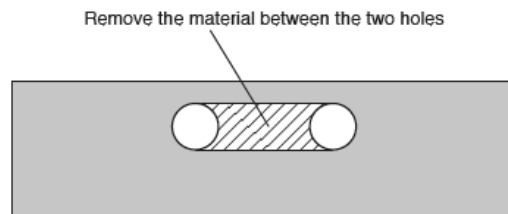
- (a) State the name of the joint used on the corners of the tray.
- (b) Name a suitable adhesive for securing the joints on the corners of the tray.
- (c) Name a suitable hardwood for the sides of the tray.
- (d) The cut out handles on the sides of the tray are made in three stages. The picture below shows the first stage.



Identify the most suitable drill bit for making the holes. *(Please tick)*

Auger bit	Twist bit	Forstner bit	Countersink bit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (e) The drawing below shows the second stage.



Explain one method of removing the waste material shown using workshop **hand tools**.

1

1

1

1

2

(f) The base of the tray is made from plywood. Plywood is a manufactured board.

(i) State the name of another manufactured board.

1

(ii) State one advantage, other than cost, of using plywood for the base of the tray compared to solid wood.

1

### Question 18

The jigsaw below has blades that can be replaced.



State two advantages of using a saw that has replaceable blades.

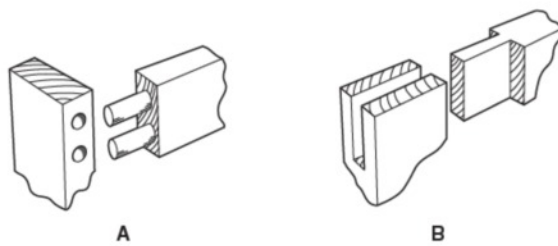
1.

2.

2

### Question 19

Shown below are two wood joints labelled A and B.



(a) State the names of each of the wood joints shown.

A

B

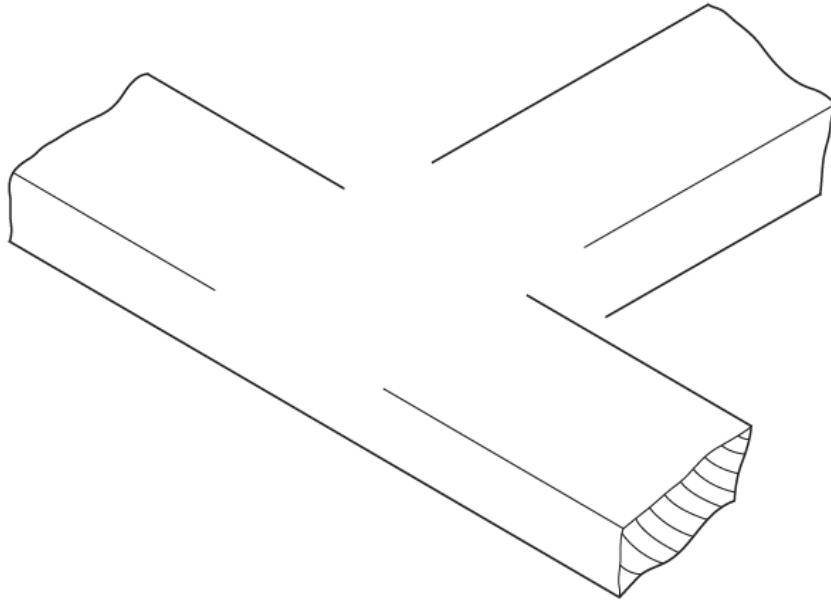
2

(b) State one reason why joint B is stronger than Joint A when they are glued.

1

**Question 20**

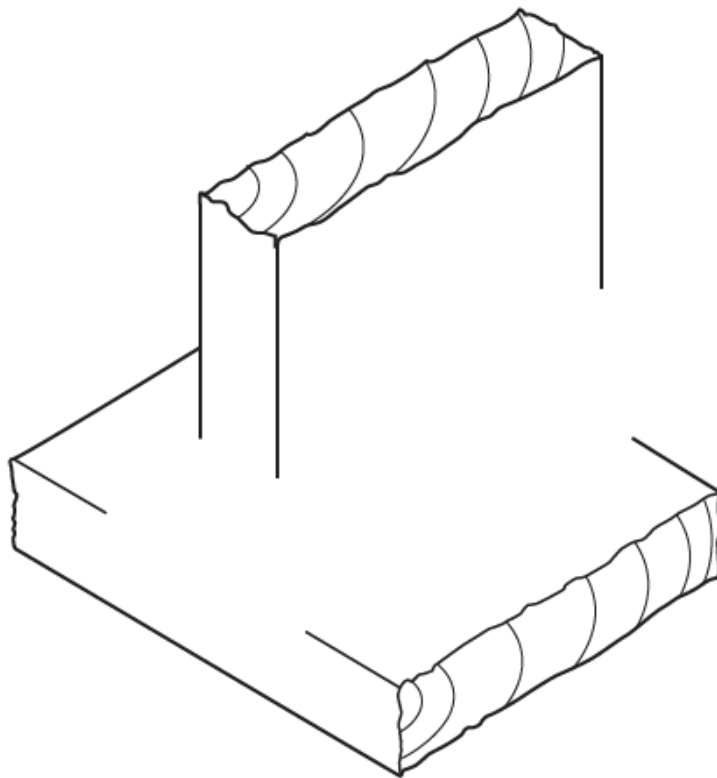
Complete the drawing below to show a tee halving joint.



3

**Question 21**

Complete the drawing below to show a through housing joint.



3

**Question 22**

State the correct names of the two knock down fittings shown below.

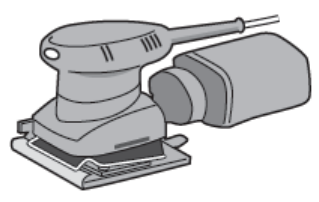


- 1.
- 2.

2

**Question 23**

A palm sander to be used to prepare a piece of wood is shown below.



State **two checks** that should be made to the palm sander *before* using.

- 1.
- 2.

2

**Question 24**

A chisel commonly found in the school workshop is shown below.



(a) State the name of this type of chisel.

1

(b) Describe two features of this chisel that make it suitable for its purpose.

- 1.
- 2.

2

### Question 25

The plywood bird box shown below is sold without a finish being applied. After purchasing, the customer decided to varnish the bird box.



(a) Explain why polyurethane varnish is a suitable choice of finish.

2

(b) Plywood and MDF are commonly used manufactured boards.

State two advantages of using manufactured boards instead of solid timber.

1.

2

2.

(c) Describe how MDF is manufactured.

2

### Question 26

A length of wood is shown below.

Sketch onto the drawing below to illustrate a chamfered edge and a bevelled edge.

Chamfered edge

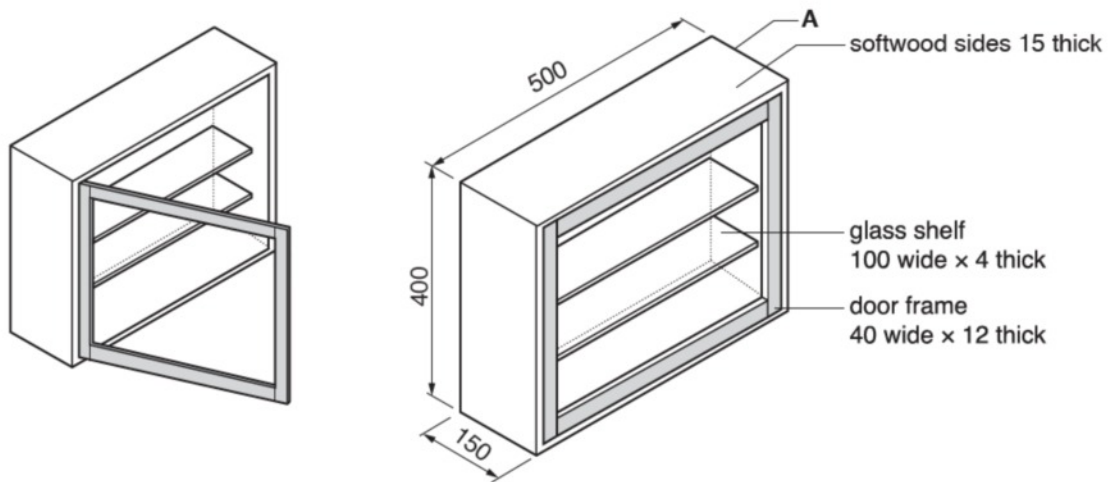


Bevelled edge

2

**Question 27**

Shown below is an incomplete design for a wall-mounted cabinet.



(a) (i) Name a suitable softwood for the sides of the cabinet.

1

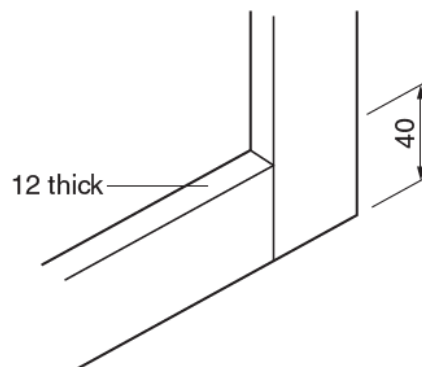
(ii) Name a manufactured board for the back of the cabinet and suggest a suitable standard thickness.

Manufactured board:

2

Suitable thickness:

(b) The drawing below shows one corner of the door frame.



(i) A butt joint was considered for joining the top and bottom to the sides of the door frame. State a reason why a butt joint was rejected.



1

(ii) State the name of an alternative joint for the corner of the door frame.

1

**Question 28**

Two product profiles are shown below.

<i>Product A</i>	<i>Product B</i>
	
Pull-along toy	Step stool
Material: Beech	Material: Oak
Pre-assembled	Supplied in flat pack form

(a) State two reasons why beech is a suitable material for the pull-along toy (Product A).

- 1.
- 2.

2

(b) The step stool (Product B) is sold in *flat-pack form*. Explain **one** advantage to the *consumer* and **one** advantage to the *manufacturer* of flat-pack furniture.

Advantage to the consumer:

Advantage to the manufacturer:

2

**Question 29**

Woods are classified as softwoods, hardwoods and manufactured boards.

Complete the table below by putting each of the materials into the correct column.

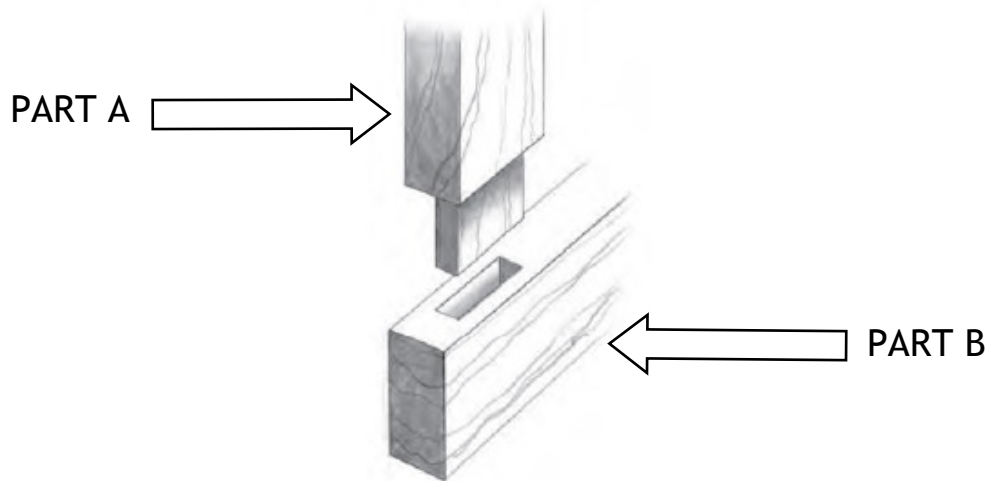
OAK      HARDBOARD      MDF      BALSA      PARANA PINE      BEECH

SOFTWOODS	HARDWOODS	MANUFACTURED BOARDS

6

**Question 30**

The two pieces of wood shown below are to be joined as part of a door frame. The rectangular hole in Part B is **NOT** cut all the way through the wood.

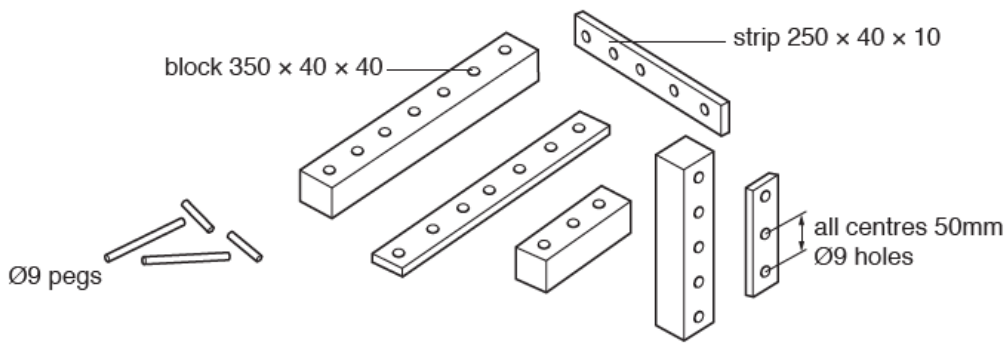


- (a) State the name of the joint shown.
  
- (b) State the name of the machine used to cut the rectangular hole in Part B.
  
- (c) Describe how Part A would be marked out and cut. You must reference all hand tools used. *You may use sketches to support your answer.*

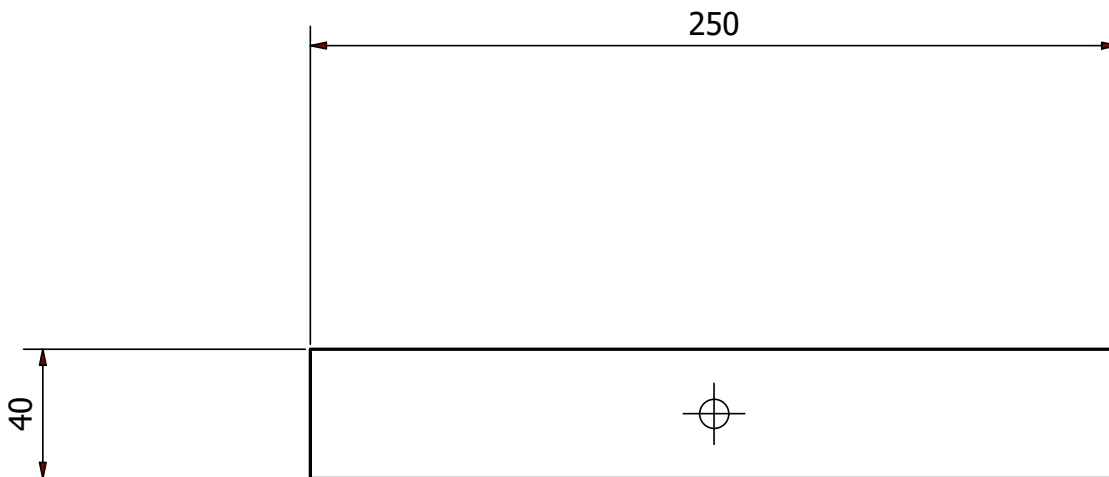


**Question 31**

The wooden shapes and pegs which make up a child's construction kit are shown below. The construction kit will be made in a school workshop.



- (a) Sketch the remaining holes for the **250mm length** onto the drawing below - the central hole has been marked on for you. **Add all dimensions** to show the position of the holes to be drilled. *You will need to look at the drawing above carefully to help you.*



- (a) State the diameter of the drill bit that would be used to create this part.
- (b) State the name of a suitable drill bit that would be used to make the holes.
- (c) State the name of the tool that could be used to score a centre line parallel to the long edge of the piece of wood.
- (d) The wooden strips, blocks and pegs will have a finish applied to them.

State **two** general reasons why a finish might be applied to a wooden product.

- 1.
- 2.

6

1

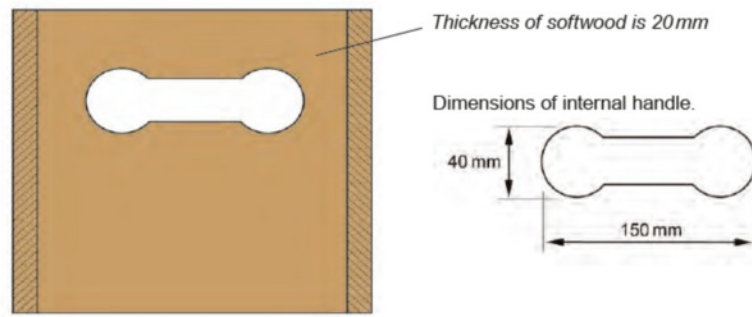
1

1

2

**Question 32**

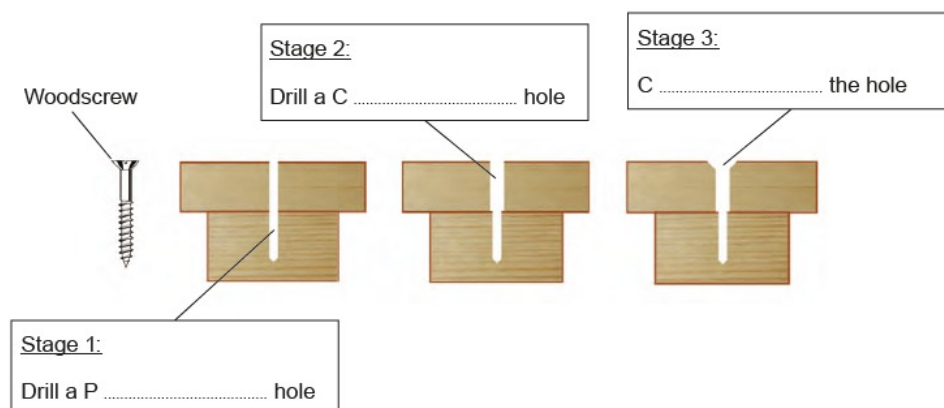
The diagram below shows the side of a softwood storage box. The internal handle is to be cut out to enable the box to be easily carried.



- (a) State the name of a suitable drill bit that could be used to make the 40mm holes. 1
  
- (b) State the size of the distance between the centres of the holes to be drilled. 1
  
- (c) **Describe** a method of removing the middle section of the handle. You must reference tools or equipment. 3

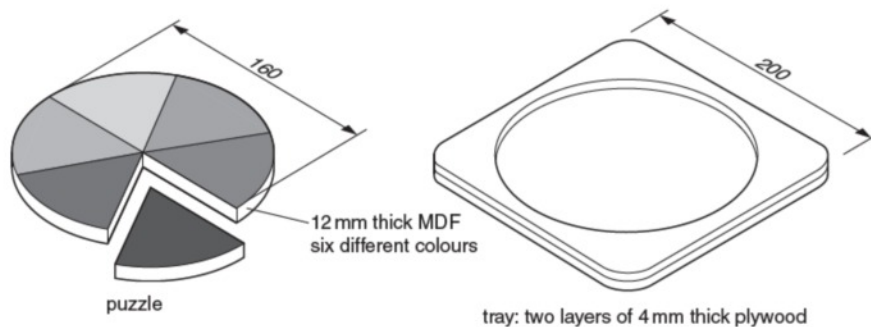
- (d) The diagram below shows the drilling stages involved in preparing to join the sides of the box using a wood screw.

Complete the labelling of the diagram.



### Question 33

Shown below is a child's puzzle and the tray in which the puzzle is placed. The puzzle is made from six pieces of MDF and the tray is made from plywood.



(a) State two advantages of using MDF rather than plywood for the puzzle.

1.

2.

(b) Use *sketches and notes* to explain why the *construction of plywood* makes it more suitable for the tray than solid wood.

(c) Use *sketches and notes* to describe how the hole in the top piece of plywood could be cut out. You must reference any tools or equipment used.

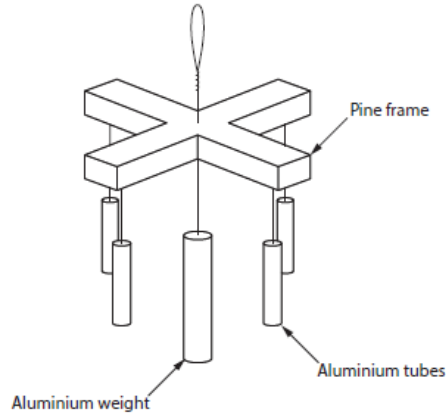
(d) The two pieces of plywood will be glued and clamped together.

(i) State the name of a suitable adhesive.

(ii) State the name of a suitable clamp.

**Question 34**

The drawing below shows a wind chime. The frame of the wind chime is made from pine and the chimes are made from aluminium tubes.



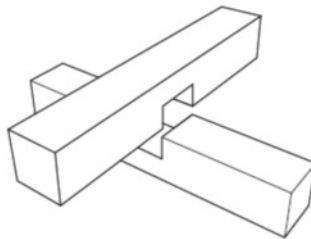
(a) The pine used is from a recycled source.

Explain two advantages for the environment of using pine from a recycled source.

- 1.
- 2.

2

(b) The joint shown below is used to create the frame.



State the name of the joint shown.

1

(c) (i) Name three hand tools that would be used to **mark out** the joint.

- 1.
- 2.
- 3.

3

(ii) Name two hand tools that would be used to **cut** the joint.

- 1.
- 2.

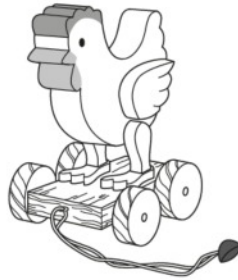
2

(iii) State the name of the hand tool that would be used to flatten out the bottom of the joint prior to assembling.

1

**Question 35**

Shown below is a pull-along toy for a young child. The body, wings, legs and feet will be cut from MDF and then painted. The base and wheels are to be made from a decorative hardwood with a clear coating.



(a) Name a suitable hardwood for the base and the wheels.

1

(b) The hardwood will not be painted, but will be finished with a clear coating.

(i) State the names of two possible clear finishes.

1.

2

2.

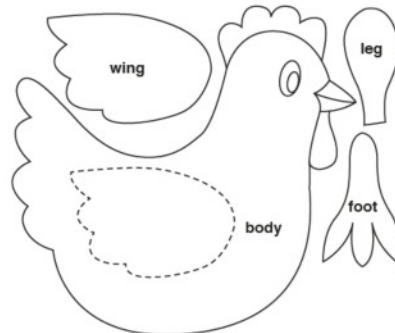
(ii) Explain two reasons why the hardwood is finished this way.

1.

2

2.

(c) The drawing below shows the parts of the body of the pull-along toy. The body will be cut from thicker MDF than the other component parts.



(i) The drawing provided to the manufacturer was drawn to a scale of 1:2.

Explain what is meant by a scale of 1:2.

1

(d) List three steps to inform the maker how these component parts should be created.

1.

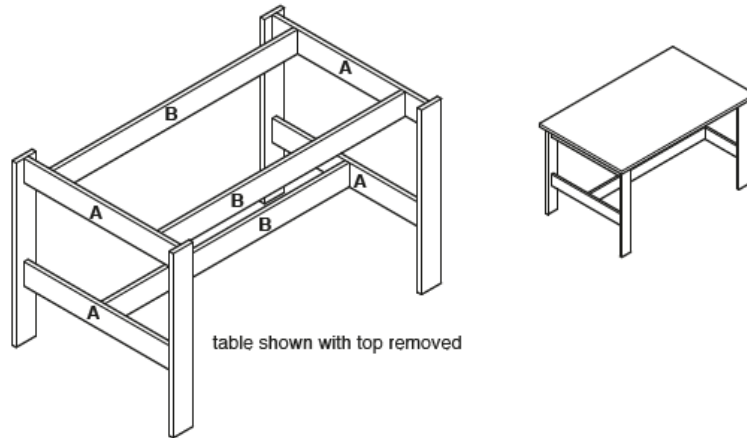
2.

3.

3

**Question 36**

Shown below is a child's table and parts list.



Part	Number Required	Length × Width × Thickness	Material
leg	4	450 × 60 × 15	softwood
end rail A	4	470 × 60 × 15	softwood
long rail B	3	740 × 60 × 15	softwood
table top	1	840 × 540 × 19	manufactured board

(a) (i) Name a suitable softwood and manufactured board for parts of the table shown in the parts list.

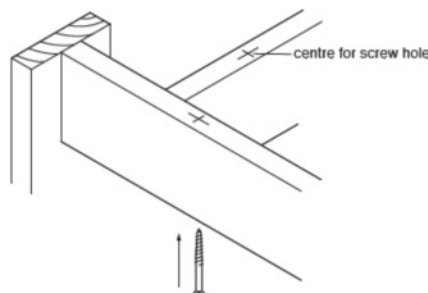
Softwood:

Manufactured board:

(ii) The legs and rails are all 60mm wide and 15mm thick.

State **one** advantage to a manufacturer of using materials that are the same width and thickness.

(b) The table top will be attached to the rails by means of screws. The diagram below shows part of the table with the positions for two screw holes marked out.



(i) *In the space below*, use a sketch and notes to show how the holes could be drilled so that the screw head would be hidden.

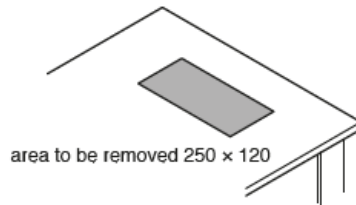
(c) The rails and legs will be joined using dowel joints. A drilling jig is needed when drilling the holes for the dowels.

State **two** benefits of using drilling jig when drilling the holes for the dowels.

1.

2.

(d) A container is required to store pens, pencils and other small items of equipment. The drawing below shows the area where the container will fit into the table top.



*With the use of sketches*, describe how the shaded area would be removed from the table top. You must reference any hand or machine tools used.

(e) Before applying a finish, the manufacturer first uses a plane to remove any blemishes.

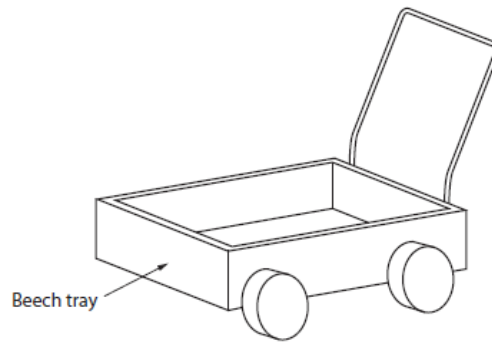
(i) State the name of the type of plane shown below.

(ii) Sketch the grain of the wood onto the diagram below to show the plane being used in the correct direction.



### Question 37

An initial sketch for a baby walking aid is shown below.



(a) State whether beech is a hardwood, softwood or manufactured board.

1

(b) State two properties of beech that make it suitable for the tray.

1.

2

2.

(c) (i) The designer decided to make the tray coloured. State the names of two types of coloured finish that could be applied to the tray.

1.

2

2.

(ii) State a reason why the designer chose **primary** colours for the tray.

1

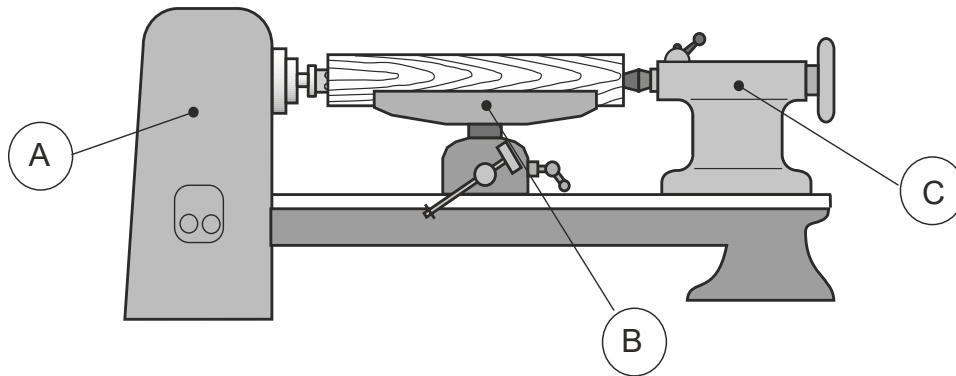
(d) A *butt joint* was originally considered for joining the corners of the tray but was rejected due to poor strength.

State the name of a suitable joint that could be used to join the corners.

1



(e) The four wheels are to be cut from a turned length of wood.



(i) State the name of the machine shown below which is used to turn the wooden blank.

1

(ii) State the name of the parts of the machine labelled A, B and c.

A

B

C

3

(f) With the use of sketches, describe five steps for preparing the wooden blank for turning.

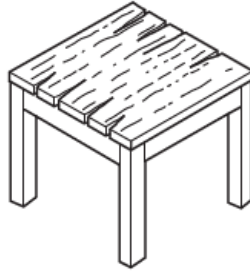
5

(g) State the name of the tool used to check the diameter of the wood whilst it is on the machine mentioned above.

1

**Question 38**

A small table made from hardwood is shown below.

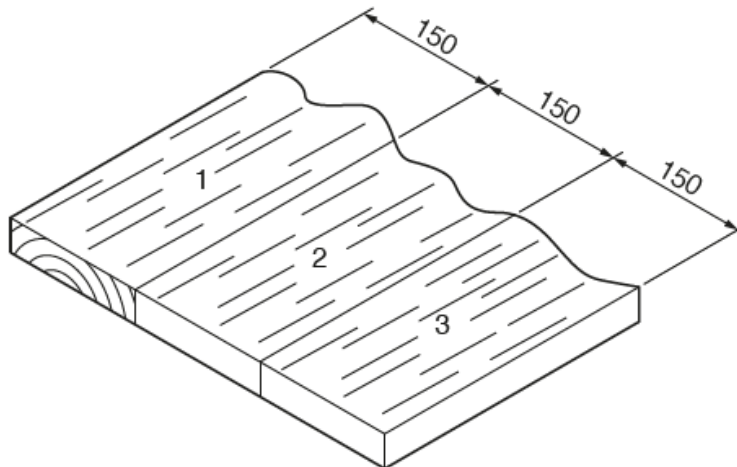


(a) State two possible reasons why the table top has 'split'.

- 1.
- 2.

2

(b) A larger version of the table has also been designed. The diagram below shows how three boards will be glued and clamped together to make a solid table top.



(i) State **one** reason why it would be necessary to join three boards together to make a solid wood table top.

1

(ii) **Complete the diagram above** by drawing the end grain onto boards 2 and 3 to show how the boards should be glued to remain stable.

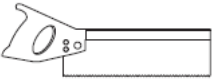
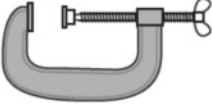

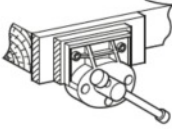

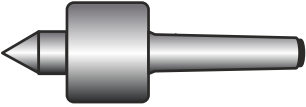

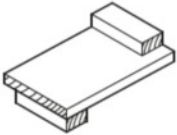




2

(iii) State the name of the type of clamping device that would be suitable for use when gluing the boards together.

1

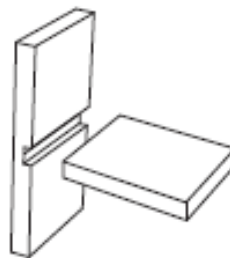
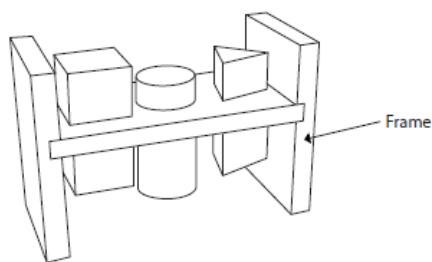
Question 39

Complete the table below.

Tool/ equipment	Name	Use
	Tenon saw	
		
	Marking gauge	
	Bench vice	
		
		
		
	Bench hook / sawing board	
		
	Twist drill bit	
		
		Cutting large diameter holes.

**Question 40**

A wooden child's toy is shown below. The frame of the toy is made from oak.



(a) (i) State the name of the joint shown which is used in the frame.

1

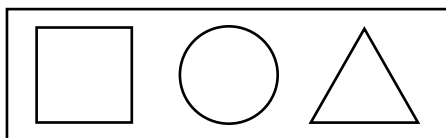
(ii) State the name of the tool used to mark the depth of the joint.

1

(iii) State the name of the tool used to flatten out the bottom of the joint after chiseling.

1

(b) The three shapes are to be cut out of the shelf.



(i) State the name of a suitable drill bit to cut the large diameter circular hole.

1

(ii) Explain how the square hole could be cut out using hand tools. *You may use sketches to illustrate your answer.*

3