

**Victorian Certificate of Education
2019**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER Letter

VCE VET FURNISHING
Written examination

Friday 15 November 2019

Reading time: 9.00 am to 9.15 am (15 minutes)

Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	20	20	20
B	10	10	40
C	15	15	40
			Total 100

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers and one scientific calculator.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.

Materials supplied

- Question and answer book of 21 pages
- Detachable insert for Section C in the centrefold
- Answer sheet for multiple-choice questions

Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.
- All written responses must be in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.
- You may keep the detached insert.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

SECTION A – Multiple-choice questions**Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1; an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

Question 1

Which tool is used to drive a chisel?

- A. mallet
- B. impact driver
- C. claw hammer
- D. Warrington hammer

Question 2

What should a cabinet-maker use to hold the drawer side when making joints?

- A. quick-release clamp
- B. wooden-faced vice
- C. engineer's vice
- D. G clamp

Question 3

Which handmade joint is used for a drawer in a chest of drawers?

- A. mortise and tenon joint
- B. tee bridle joint
- C. halving joint
- D. dovetail joint

Question 4

Which drawer runners are used for kitchen pot drawers?

- A. ball bearing full extension drawer slides
- B. centre groove timber drawer slides
- C. centre mount drawer slides
- D. white plastic drawer slides

Question 5

What is the purpose of a stretcher rail in a chair?

- A. to make the chair pleasing to the eye
- B. to make the chair easier to construct
- C. to strengthen the construction
- D. to stabilise the back rest

Question 6

A cutting list provides

- A. help to enable an isometric drawing to be produced.
- B. a list of materials required for a project.
- C. a list of the tools needed for a project.
- D. a customer with job details.

Question 7

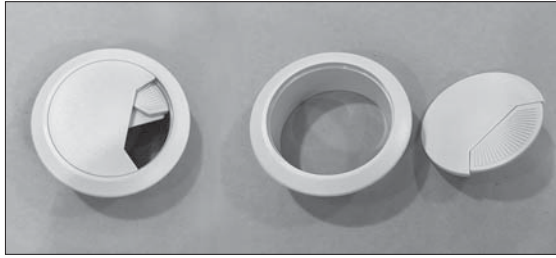
Which one of the following is used to level a bathroom cabinet kicker or cabinet base?

- A. line level
- B. spirit level
- C. sliding bevel
- D. kitchen door level

Question 8

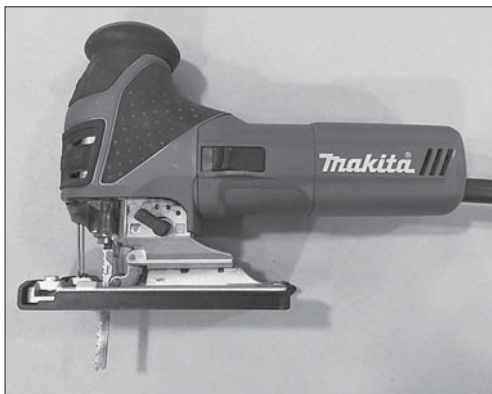
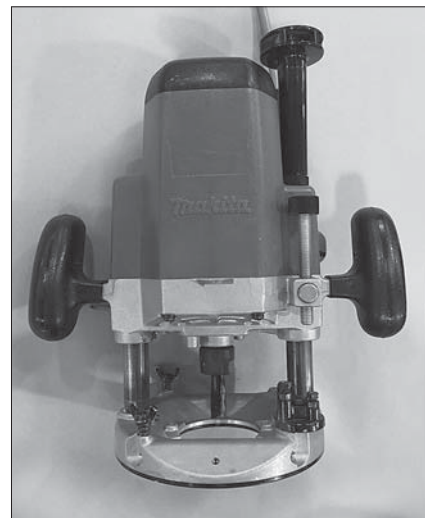
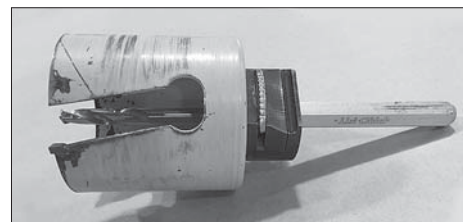
The standard height for dining room tables is

- A. 500 mm
- B. 760 mm
- C. 900 mm
- D. 1200 mm

Question 9

cable port

Which tool is used to cut out a cable port, shown above, for a computer desk?

A.**B.****C.****D.****Question 10**

The mixing ratio for glue is 5:1 resin to hardener.

How much hardener is used for 40 g of resin?

- A. 3 g
- B. 6 g
- C. 8 g
- D. 120 g

Question 11

Which clamp is used when making widening joints?

- A. G clamp
- B. F clamp
- C. sash clamp
- D. spring clamp

Question 12

What is the most appropriate joint to use when making widening joints?

- A. biscuit joint
- B. rebate joint
- C. dovetail joint
- D. mortise and tenon joint

Question 13

What is the area, in square metres, of **half** of a 2400 mm × 1200 mm × 19 mm sheet of veneered particle board (VPB)?

- A. 1.44 m²
- B. 2.88 m²
- C. 1440 m²
- D. 2880 m²

Question 14

Which ratio is used when marking dovetails on a solid timber drawer?

- A. 1:10
- B. 1:3
- C. 1:7
- D. 1:6

Question 15

Which drill bit is used when installing an overhead kitchen cabinet with nylon expansion plugs onto a concrete wall?

- A. auger drill bit
- B. spade drill bit
- C. dowel drill bit
- D. masonry drill bit

Question 16

How many 8 mm × 50 mm dowels should be used in a coffee table rail that measures 50 mm × 20 mm?

- A. one
- B. two
- C. three
- D. four

Question 17

What is the correct depth for dowel holes when using 8 mm × 50 mm dowels?

- A. 8 mm
- B. 25 mm
- C. 27 mm
- D. 50 mm

Question 18

Where are drawer stops fitted in a timber drawer construction?

- A. the back of the drawer
- B. the inside of the plywood back
- C. the drawer runners at the back
- D. the blade rail behind the drawer front

Question 19

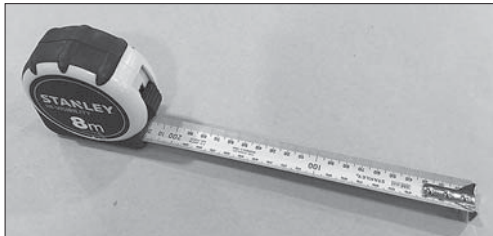
Face marks and edge marks are an industry-accepted way to show the

- A. best face and edge of a component.
- B. face and edge to be stained or finished.
- C. face and edge to be routed.
- D. two surfaces to be sanded.

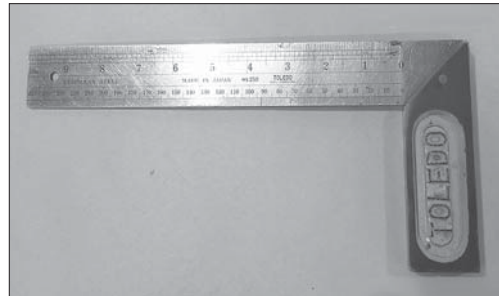
Question 20

Which tool is used to check a cabinet carcass for square?

A.



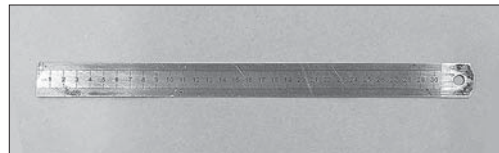
B.



C.



D.



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SECTION B – Short-answer questions

Instructions for Section B

Answer **all** questions in the spaces provided.

Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

Question 1 (8 marks)

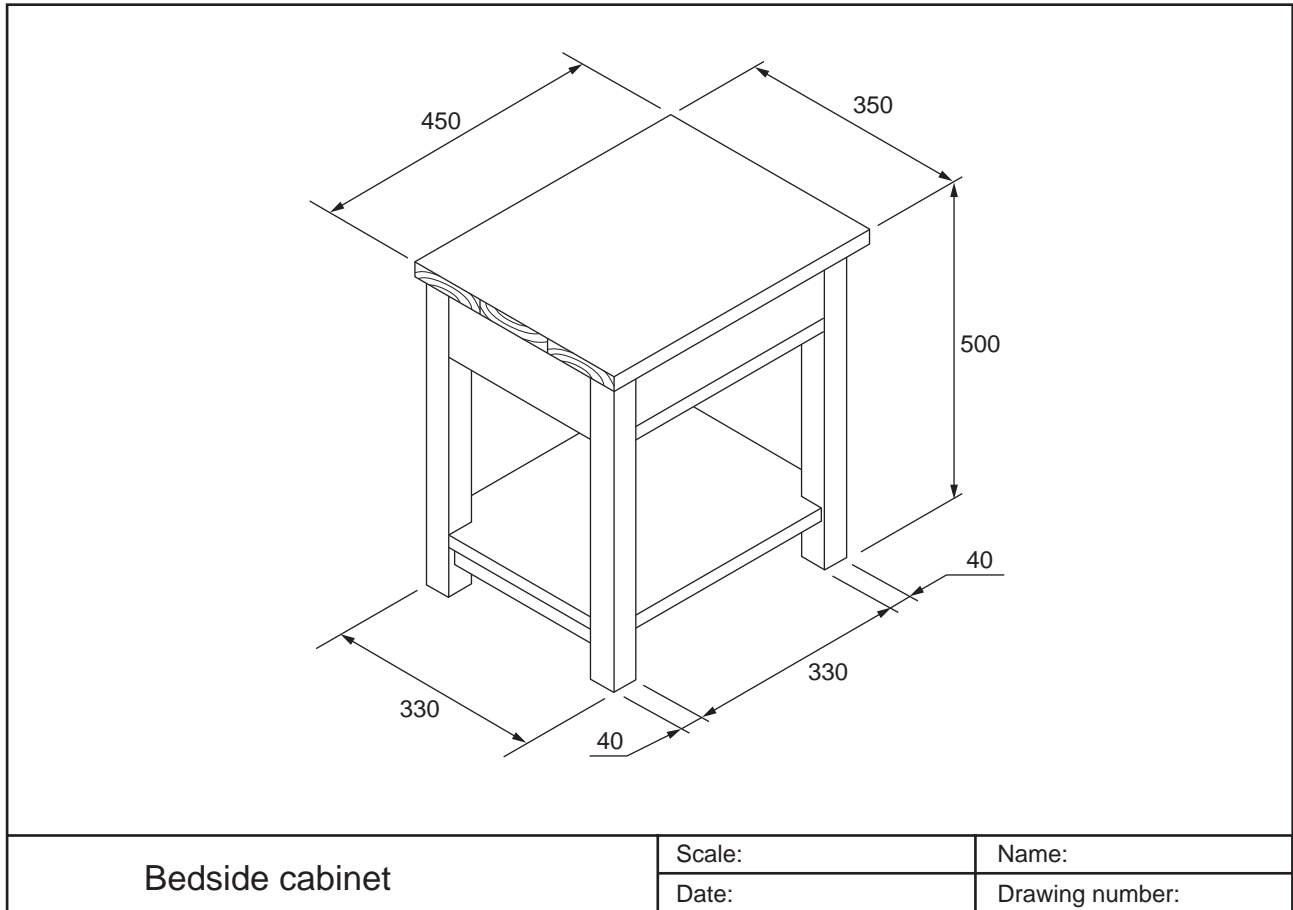


Figure 1

- a. How wide are the legs of the bedside cabinet shown in Figure 1? 1 mark

- b. What direction is the grain of the top side rail of the bedside cabinet shown in Figure 1? 1 mark

- c. In the space provided below, sketch the top of the bedside cabinet shown in Figure 1. Show the grain direction and the location of the biscuit joints that are used for the widening joints. 2 marks



- d. What items of personal protective equipment (PPE) should be worn when using a biscuit machine to make the joints for the top of the bedside cabinet? 2 marks

- e. The legs and rails of the bedside cabinet have been clamped.
What two things must be checked before the legs and rails are left to set? 2 marks

- _____
- _____

Question 2 (1 mark)

Hardened steel in plane blades and chisels can be damaged by overheating when the blades and the chisels are being sharpened.

How can overheating be prevented during the sharpening process?

Question 3 (2 marks)

A bathroom cabinet kicker needs to be scribed to the floor.

What is scribing and why is it necessary?

Question 4 (2 marks)

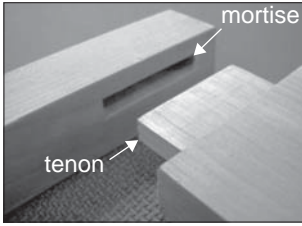
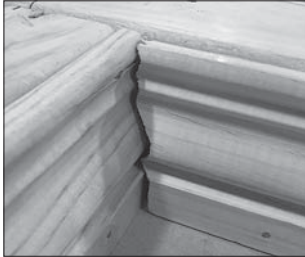
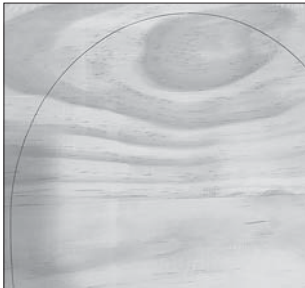
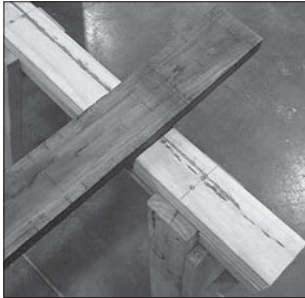
What is a glass splashback and what is its purpose in a kitchen?

Question 5 (2 marks)

What is the maximum number of pieces of plywood measuring 600 mm × 450 mm that can be cut from a 2440 mm × 1220 mm sheet of plywood?

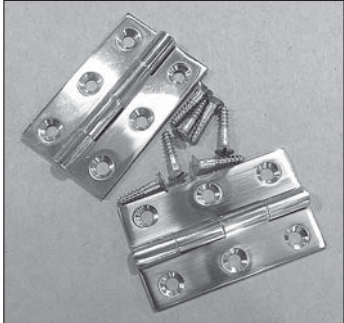
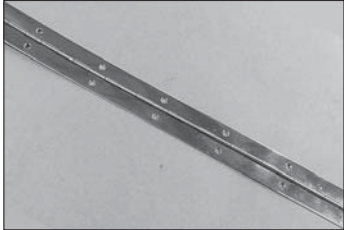
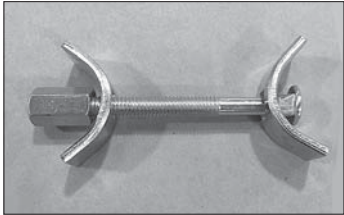
Question 6 (4 marks)

Name the saw that is best used for each of the tasks given in the table below.

Task	Saw
 <p data-bbox="172 586 373 622">cutting the tenon</p>	
 <p data-bbox="172 927 411 963">scribing the skirting</p>	
 <p data-bbox="172 1294 354 1330">cutting a shape</p>	
 <p data-bbox="172 1671 370 1706">cutting to length</p>	

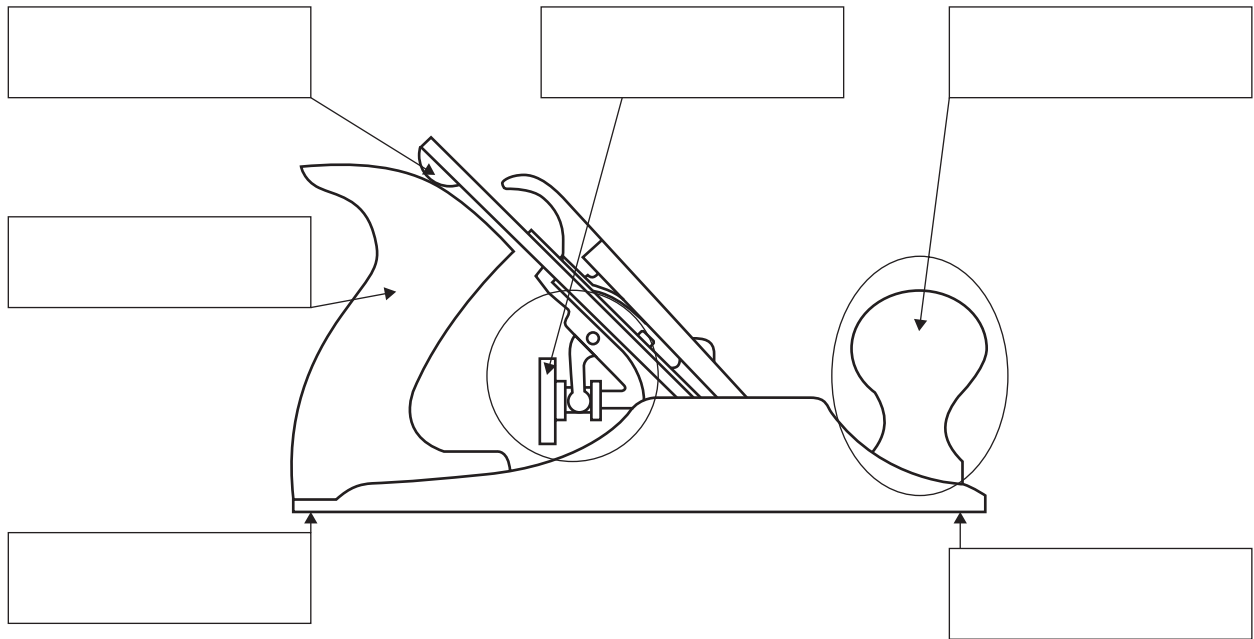
Question 7 (6 marks)

Complete the table below by stating the name of each hardware item and what it is used for.

	<p>Name</p>
	<p>Use</p>
	<p>Name</p>
	<p>Use</p>
	<p>Name</p>
	<p>Use</p>

Question 8 (6 marks)

Label the following parts of a smoothing plane.



Question 9 (2 marks)

What is the location and function of a splat in a timber chair?

Question 10 (7 marks)

Complete the costing of bedside cabinet parts in the cutting and costing list below by filling in the missing information in the bold boxes using the price list provided.

Timber price list					
Timber	width × thickness (mm)	Cost per lineal metre	Timber	width × thickness (mm)	Cost per lineal metre
Victorian ash	50 × 50	\$6.75	Victorian ash	200 × 25	\$13.50
Victorian ash	200 × 38	\$20.52	Victorian ash	150 × 25	\$10.13
Victorian ash	150 × 38	\$15.39	Victorian ash	100 × 25	\$6.75
Victorian ash	100 × 38	\$10.26	Victorian ash	50 × 25	\$3.38

Cutting and costing list – Bedside cabinet										
									Total	
Item no.	Part of product	No. of pieces	Length	Width	Thickness	Notes	Total lineal metres	Cost per lineal metre	\$	Cents
1	top	1	450	350	22	1 @ 450 × 150 × 25	0.45		\$4.56	
						2 @ 450 × 100 × 25	0.9	\$6.75		
2	legs	4	480	40	40			\$6.75	\$12.96	
3	top rails	2	250	113	20		0.5	\$10.13	\$5.07	
4	lower rails	2	250	40	20		0.5		\$1.69	
5	shelf	1	410	325	20	1 @ 410 × 150 × 25	0.41	\$10.16		
						2 @ 410 × 100 × 25		\$6.75	\$5.54	
Total \$										

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SECTION C – Case study**Instructions for Section C**

Please remove the insert from the centre of this book during reading time.

Use the case study provided in the insert to answer the questions in this section.

Use explanatory diagrams, charts and sketches if you believe they will improve your answers.

Answer **all** questions in the spaces provided.

Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

Question 1 (6 marks)

Complete the cutting list for the dining chair in the table below by filling in the missing information in the bold boxes.

Cutting list							
Item no.	Item	No. of pieces	Length	Width	Thickness	Notes	Material
1	back leg	2		90	45	cut to pattern	blackwood
2	front leg	2	645	45	45	cut to pattern	blackwood
3	arms	2		35	25	cut to pattern	blackwood
4	side seat rails	2	398		20		blackwood
5	stretcher rails		419	20	12		blackwood
6	front seat rail	1	505	65	20	cut to pattern	blackwood
7	back seat rail	1		65	20	cut to pattern	blackwood
8	back frame rails	2	503	70	20	cut to pattern	blackwood
9	back frame stiles	2		40	20		blackwood
10	seat frame rails	2	503	60	20		blackwood
11	seat frame stiles	2	460	60	43	cut to pattern	blackwood

Question 2 (7 marks)

Complete the job plan below for the dining chair by filling in the missing information in the bold boxes.

Section	Step	Tools/equipment required	Personal protective equipment (PPE) for task
preparation	Select timber, dress and cut to size.	tape measure, docking saw, rip saw, jointer and thicknesser	hearing and eye protection
construction	Mark out legs to pattern.	pencil, 300 mm steel rule, combination square, pattern	
	Cut legs to pattern.		hearing and eye protection
	Shape legs and sand internal faces.	jigsaw, spokeshave, smoothing plane, sanding block and abrasive paper, router	hearing and eye protection, dust mask
	Mark out angles for rails.		
	Cut rails.	mitre saw, sliding bevel, combination square	hearing and eye protection
	Mark out dowel joints.	pencil, 300 mm rule, combination square, marking gauge	
	Make dowel joints.	drill, drill bits	hearing and eye protection
	Mark out rails to pattern.	pencil, 300 mm steel rule, combination square, pattern	
		bandsaw, jigsaw	hearing and eye protection
	Shape front, back and side rails, and sand all internal faces.	jigsaw, spokeshave, smoothing plane, sanding block and abrasive paper, router	hearing and eye protection, dust mask
		glue, clamping blocks, clamps, tape measure	gloves
	Dry run then glue side frames to rails. Check for square.	glue, clamping blocks, clamps, tape measure	gloves
	Shape and fit corner blocks.	disc sander, drill, drill bits, screwdriver, glue	
finishing	Sand all parts ready for finishing.	sanding block and abrasive paper	dust mask
	Apply three coats of rubbing oil finish.		gloves and protective clothing
	Fit seat and back cushion, then fasten.		

Question 3 (6 marks)

List three tools and the process each tool is used for when shaping the arms of the dining chair.

Tool	Process

Question 4 (1 mark)

What is the radius of the pencil round on the timber arm of the dining chair?

Question 5 (1 mark)

A furniture-maker has just been given the working drawing of the dining chair.

What other form of documentation is required before the furniture-maker can start machining and making the dining chair?

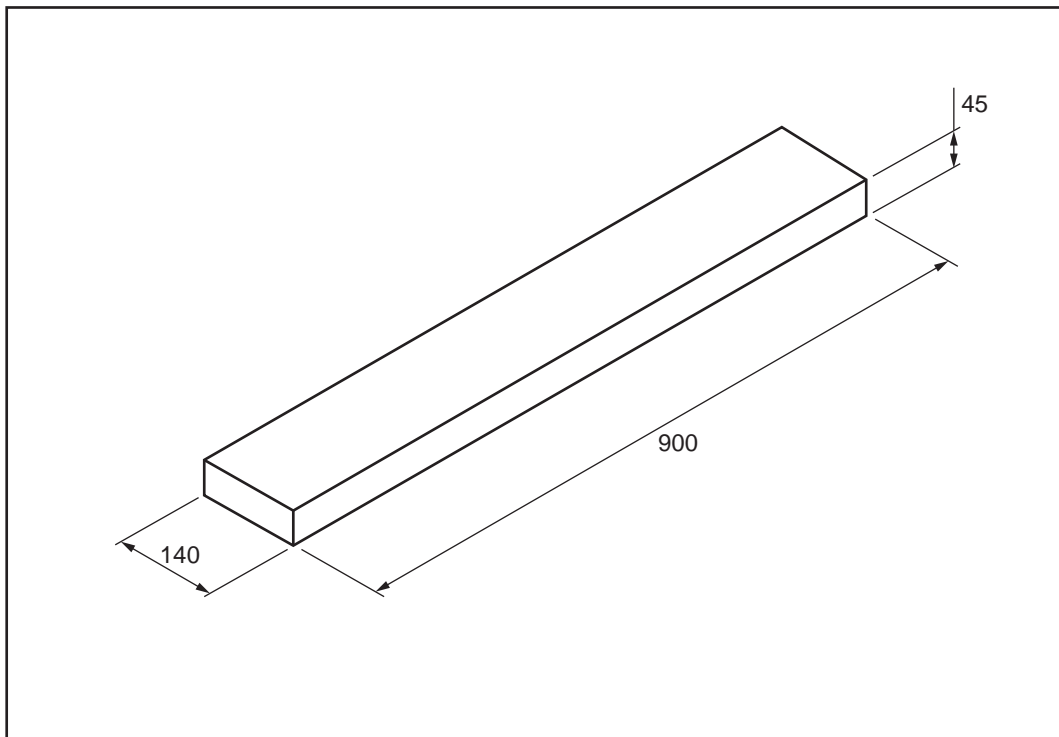
Question 6 (2 marks)

List two reasons why corner blocks are used in chair construction.

- ---
- ---

Question 7 (2 marks)

Mark out the shape of the back legs of the dining chair for cutting on the diagram below.

**Question 8** (1 mark)

What is the router bit shown above used for?

Question 9 (2 marks)

When using a flush trim bit in a router, what is the preferred method of controlling the hazard of airborne dust? Justify your response.

Question 10 (3 marks)

List three protective measures that should be taken when using a cordless drill.

- _____
- _____
- _____

Question 11 (1 mark)

The back and seat of the dining chair have timber frames for the upholstery.

What joint is used to join the frame rails and the stiles?

Question 12 (1 mark)

Why is the width of the back upholstery frame 2 mm less than the distance between the back legs?

Question 13 (1 mark)

Why do the bottom ends of the legs have a 3 mm arris?

Question 14 (1 mark)

What tool is used to transfer angles from the set-out to the panel saw?

Question 15 (5 marks)

Four dining chairs will be made. Foam will be used in the seats and the backs of these chairs.

Complete the foam list below to calculate the total cost of the foam.

Foam list							
Item	No. of pieces	Length	Width	Thickness	\$/square metre	Total square metres	Item cost
seat	4	450	450	50	\$110		
back rest	4	450	260	50	\$80		
Total cost \$							

Insert for Section C

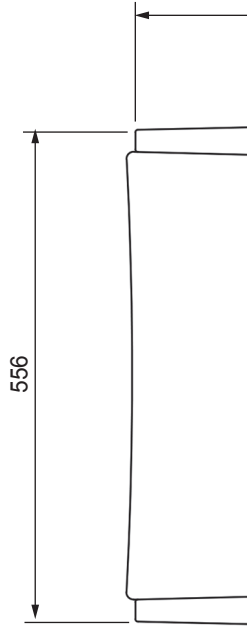
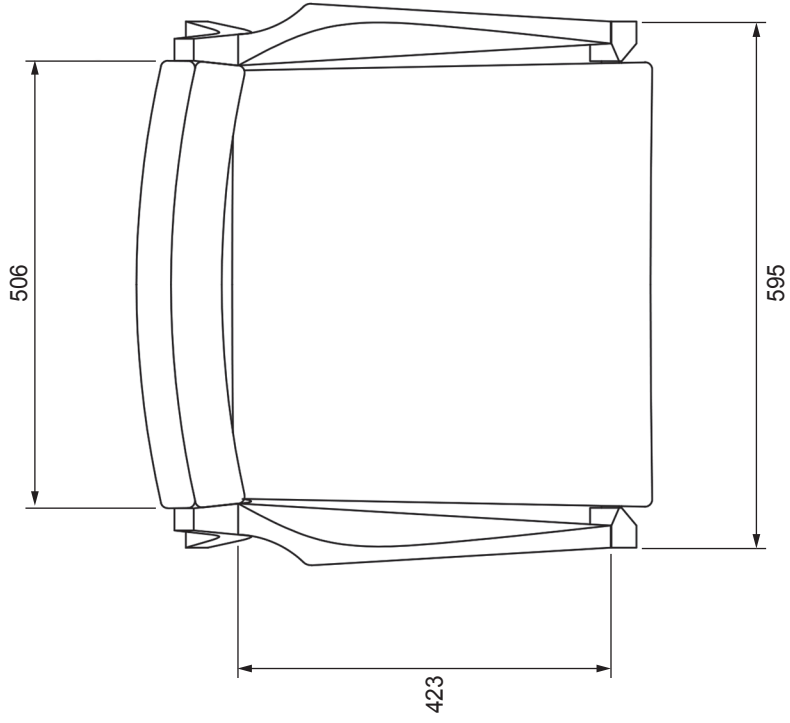
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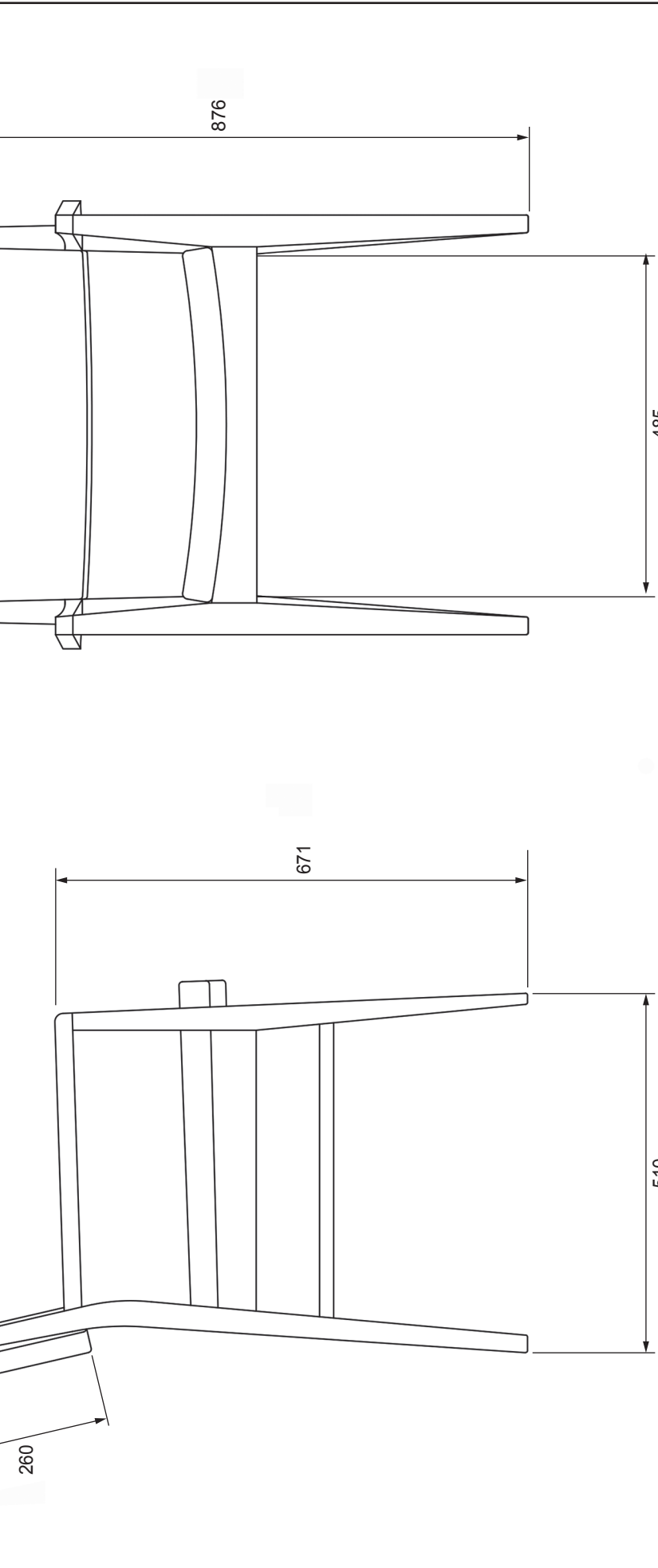
Specifications

A client requires an upholstered dining chair with the following specifications:

- timber to be Australian blackwood
- seat front and back rails cut to pattern from 65 mm × 20 mm timber
- seat side rails tapered from 65 mm × 20 mm timber
- stretcher rails 20 mm × 12 mm
- legs cut to pattern from 45 mm thick timber
- arms cut to pattern with 6 mm radius to all top edges
- fabric as per sample provided by the client
- upholstery 40 mm nominal thickness
- seat frames and back frames for webbed upholstery
- 1 mm allowance for upholstery fabric between the frame and the legs

RevNo	Revision note	Date	Signature	Checked
1	Seat radius increase	4/08/2019		
2	Dowel location – intersection with loose tenons	4/08/2019		
3	Upholstery height	21/08/2019		





FILE NAME	Chair dwg	SHEET	1	SCALE	1:8
SIZE	A3	For client approval			
DRAWN	4/6/2019	Dining chair			
CHECK	10/9/2019	layout			
APPR.	C.L.C.	DWG NO.			
ISSUED	4/9/2019	1 of 1			
REV.	C.C.A.				