

# 2019 VCE VET Furnishing examination report

## General comments

The 2019 examination contained a variety of questions on content from the following four units of competency:

- MSFFP2001 Undertake a basic furniture making project
- MSFFM2002 Assemble furnishing components
- MSFFM2001 Use furniture making sector hand and power tools
- MSFGN2001 Make measurements and calculations,

The three sections of the examination were:

- Section A – Multiple-choice questions
- Section B – Short answer questions
- Section C – Case study.

Students demonstrated good knowledge of the use of hand and power tools. Students were able to describe a basic range of tools and methods and questions relating to the use of tools and materials were well answered.

Questions addressing student knowledge of construction methods and their application to furniture items were generally well answered.

Interpretation of drawings and the development of accurate cutting lists presented a challenge to most students. Questions requiring simple reading of drawings were answered well but questions involving more complex calculation and planning were generally not answered well.

Areas of strength included:

- identification of basic tools
- occupational health and safety
- selection of appropriate tools for tasks.

Areas of weakness included:

- application of mathematical concepts
- ability to interpret diagrams with precision
- hardware knowledge
- estimation of answers.

## Specific information

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

## Section A – Multiple-choice questions

Question	% A	% B	% C	% D	Comments
1	97	0	2	2	.
2	23	55	0	22	A wooden-faced vice is used to hold timber, as harder materials will damage the face of the job.
3	8	6	11	75	A dovetail joint is used for a chest of drawers.
4	73	14	8	5	Ball bearing full extension drawer slides are used for kitchen pot drawers.
5	0	0	81	19	A stretcher rail strengthens the chair.
6	2	92	5	2	A cutting list is a list of the materials required for a project.
7	17	77	3	3	A spirit level is used to level a cabinet kicker or base.
8	5	34	42	19	The standard height for a dining table is 760 mm.
9	16	8	8	69	A hole saw is the fastest and most accurate and gives a good quality finish.
10	2	5	91	3	
11	27	22	34	17	Sash clamps are used for widening joints.
12	67	13	5	16	Biscuit joints are strong, quick to make and provide for some repositioning.
13	73	11	13	3	
14	2	27	3	69	
15	25	11	9	55	Concrete and other masonry materials must be drilled with the correct type of masonry drill.
16	11	66	13	11	Two dowels provide good strength and prevent twisting of the rail.
17	0	55	38	8	Holes that are 27 mm deep provide sufficient depth for the dowel and include an allowance for excess glue and timber chips.

Question	% A	% B	% C	% D	Comments
18	28	11	41	20	Drawer stops are fitted to the blade rails behind the drawer front. They are small timber blocks that align the drawer front and the front of the cabinet when the drawer is closed.
19	75	9	6	9	
20	34	38	27	2	A tape measure is used to measure the diagonals and ensure they are equal. Try squares are not sufficiently accurate.

## Section B – Short-answer questions

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

### Question 1a.

Marks	0	1	Average
%	14	86	0.9

Most students identified 40 mm as the correct dimension for the legs of the bedside cabinet.

### Question 1b.

Marks	0	1	Average
%	42	58	0.6

The correct answer was that the grain runs along the length of the rails. Many students did not show the direction of the grain in the drawing.

### Question 1c.

Marks	0	1	2	Average
%	9	22	69	1.6

Students were required to show two to three biscuits in each join and show the grain alternating in each board.

### Question 1d.

Marks	0	1	2	Average
%	0	17	83	1.9

The correct answer was:

- eye protection
- hearing protection.

**Question 1e.**

Marks	0	1	2	Average
%	21	51	28	1.1

The correct answer was:

- check for twist or wind
- check for square.

**Question 2**

Marks	0	1	Average
%	19	81	0.8

Most students correctly responded that when sharpening hardened steel blades, water or another coolant must be used to prevent overheating.

**Question 3**

Marks	0	1	2	Average
%	82	13	6	0.3

A correct response would have included the following information: scribing is fitting the lower edge of the kicker to the floor. This is important when the floor is not perfectly even or level. Scribing ensures the cabinets are level when installed, creates a vermin/insect-proof joint and provides a seamless finish. Many students did not seem to understand the concept of scribing or were unable to apply it to the situation described.

**Question 4**

Marks	0	1	2	Average
%	43	18	38	1.0

A correct response would have included the following information: a kitchen splashback is fitted on the wall above the sink, cooktop or other bench top, between the base and overhead cabinets. Its purpose is to protect the wall from oil, grease, splashes and other kitchen messes that occur when you are cooking or preparing food.

**Question 5**

Marks	0	1	2	Average
%	62	1	37	0.8

It is important to be able to perform calculations to determine material quantities and spatial size.

Eight pieces of plywood 600 mm × 450 mm could be cut from the material given.

This question could not be solved by dividing the total area of the sheet by the area of each piece of material, as that cannot be practically cut with a saw. By convention, the first measurement given is the length and the length is aligned along the grain of the plywood.

**Question 6**

Marks	0	1	2	3	4	Average
%	5	6	31	30	28	2.7

It is important to be able to identify the name and use of commonly used hand tools.

Students were required to identify a saw for each task shown. The correct responses were:

- tenon saw
- coping saw or jigsaw
- coping saw or jigsaw
- crosscut saw or drop saw.

Hand tools and portable power tools were both acceptable.

**Question 7**

Marks	0	1	2	3	4	5	6	Average
%	22	41	17	7	8	3	2	1.6

It is important to be able to identify commonly used types of furniture hardware and their uses.

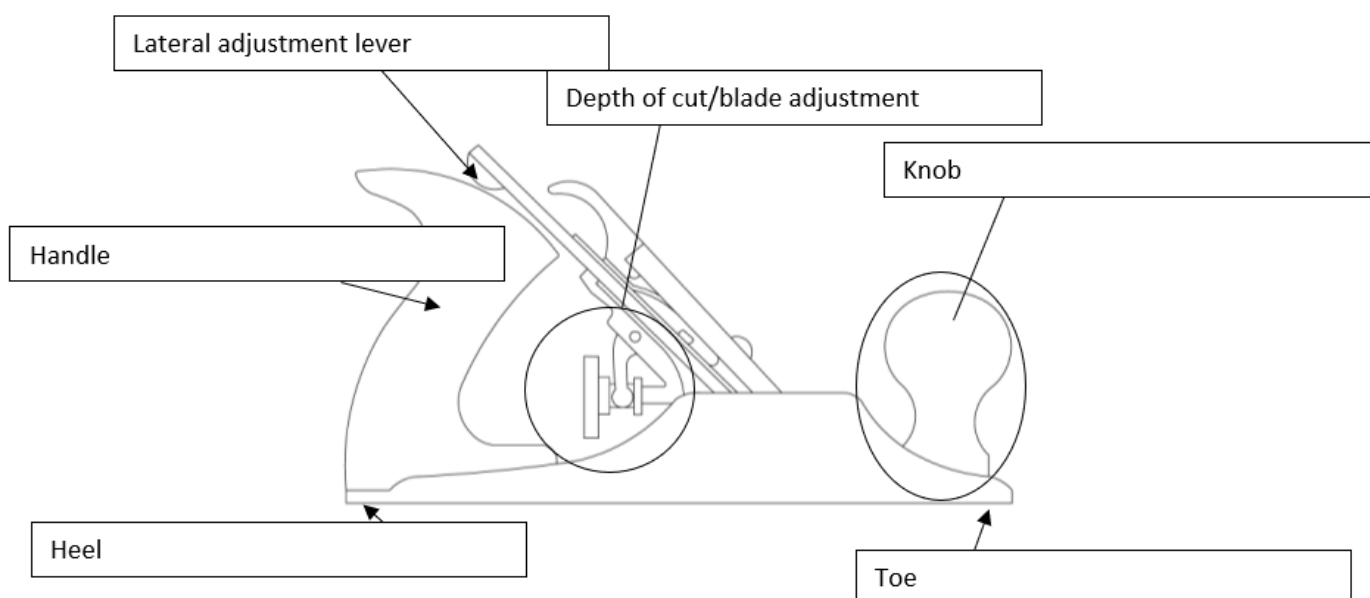
Correct responses were:

- A brass butt hinge is used for cabinet doors or box lids.
- A piano hinge is used for bi-fold doors or heavy doors or table leaves.
- A bench top connector is used for joining bench tops.

**Question 8**

Marks	0	1	2	3	4	5	6	Average
%	10	40	20	17	10	2	0	1.9

It is important to be able to identify the different parts of commonly used hand tools and power tools. The following diagram includes the labels required for a correct response. Many students used only generic terms.



**Question 9**

Marks	0	1	2	Average
%	83	10	6	<b>0.3</b>

A splat is the vertical centre piece of the back rest. It provides back support. It is important to be able to identify the different parts of furniture and furnishing terminology. Many students confused the splat with stretcher rails.

**Question 10**

Marks	0	1	2	3	4	5	6	7	Average
%	14	4	3	6	14	11	8	39	<b>4.7</b>

Students were required to fill in the blank sections (bolded boxes). Allowance was made for rounding to whole cents. Correct responses are shown in the cutting and costing list below.

Cutting list and costing – Bedside cabinet										
Item no	Part of product	No of pieces	Length	Width	Thick ness	Notes	Total lineal metres	Cost per lineal metre	Total	
									\$	cents
1	top	1	450	350	22	1 @ 450 × 150 × 25	0.45	\$10.13	\$4.56	
						2 @ 450 × 100 × 25	0.9	\$6.75	<b>\$6.08</b> <b>(\$6.07)</b>	
2	legs	4	480	40	40		1.92	\$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	\$3.38	\$1.69	
5	shelf	1	410	325	20	1 @ 410 × 150 × 25	0.41	\$10.16	<b>\$4.17</b> <b>(\$4.16)</b>	
						2 @ 410 × 100 × 25	0.82	\$6.75	\$5.54	
<b>Total \$</b>									<b>40.07</b> <b>(40.05)</b>	

## Section C – Case study

### Question 1

Marks	0	1	2	3	4	5	6	Average
%	8	5	17	13	26	24	7	3.5

The correct responses are given in the table below.

Cutting list							
Item number	Item	No. of pieces	Length	Width	Thickness	Remarks	Material
1	back leg	2	876	90	45	cut to pattern	blackwood
2	front leg	2	645	45	45	cut to pattern	blackwood
3	arms	2	423	35	25	cut to pattern	blackwood
5	side seat rails	2	398	65	20		blackwood
6	stretcher rails	2	419	20	12		blackwood
7	front set rail	1	505	65	20	cut to pattern	blackwood
8	back seat rail	1	485	65	20	cut to pattern	blackwood
9	back frame rails	2	503	70	20	cut to pattern	blackwood
10	back frame stiles	2	258–260	40	20		blackwood
11	seat frame rails	2	503	60	20		blackwood
12	seat frame stiles	2	460	60	43	cut to pattern	blackwood

Students were generally successful when asked to read from the drawing, but did less well when reading the specification or calculating from dimensions given on the drawing.

### Question 2

Marks	0	1	2	3	4	5	6	7	Average
%	3	2	7	11	16	24	25	12	4.7

Students were required to complete the job plan for a dining room chair by filling in the missing information in the bold boxes. The correct answers are shown in the job plan below.

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.	bandsaw or jigsaw	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.	sliding bevel	
	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	
	Cut rails to 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
	Dry run.	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.	disk sander, drill, drill bits, screwdriver, glue	hearing and eye protection
<b>Finishing</b>	Sand all parts ready for finishing.	sanding block and abrasive paper	
	Apply three coats of rubbing oil finish.	brush, rags	gloves and protective clothing
	Fit seat and back cushion, then fasten.	screwdriver	

### Question 3

Marks	0	1	2	3	4	5	6	Average
%	12	3	4	2	35	3	41	4.3

Students were required to list three separate tools and the process the chosen tool was used for. Any of the following responses would have been correct.



<b>Tool</b>	<b>Process</b>
bandsaw, jigsaw, draw knife	to cut the bow shape/curve
spokeshave or router	to smooth the shape/to shave off all the excess to get the curve
smoothing plane	to shape and finish the flat sections of the arm
file/rasp	to remove any scratches or bumps
sandpaper	to complete final shaping and finishing of the arms

**Question 4**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	59	41	<b>0.4</b>

The correct answer was 6 mm. This information comes from the dining chair specification.

Many students were unable to locate the correct answer.

When answering questions in the case study section, it is important to refer to the drawing and specifications provided.

**Question 5**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	18	82	<b>0.9</b>

Most students correctly responded that a cutting list is required before starting to machine.

**Question 6**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	21	63	17	<b>1.0</b>

Corner blocks are used in chair construction for two reasons:

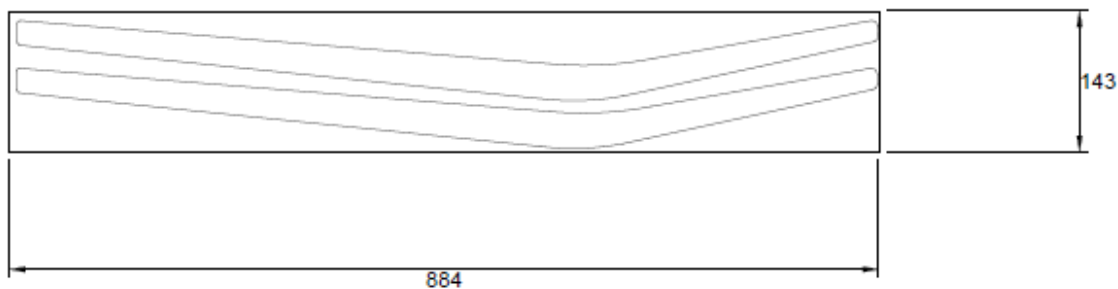
- strength for the leg and rail joints
- support/fixings for the seat

Most students were able to identify one of the reasons.

**Question 7**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	31	60	9	<b>0.8</b>

The diagram below shows the correct markings.



**Question 8**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
%	73	27	<b>0.3</b>

The router bit is used for flush trimming or following a template. It is important to be able to identify the name and use of bits/attachments associated with commonly used hand and power tools.

**Question 9**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
%	32	29	39	<b>1.1</b>

The Hierarchy of Control shows engineering controls are preferred to PPE; therefore, the preferred method to control airborne dust is to use a dust extractor or vacuum connected to the router as this prevents dust from spreading throughout the work area.

Many students incorrectly chose PPE to control the dust hazard.

**Question 10**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Average</b>
%	12	23	34	31	<b>1.9</b>

Students were able to choose any three practical methods to reduce the hazards present when using a cordless drill. Correct answers included:

- clamp the work piece or use a bench vice to hold the work piece
- operator training on the safe use of the tool before use
- ensure good housekeeping, no trip hazards and a safe working environment
- check the drill is in good working order
- use PPE
- use both hands on a cordless drill
- use correct speed for operation
- make sure the drill bit is sharp, fitted correctly in the battery drill and the correct type for the job.

**Question 11**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
%	30	70	<b>0.7</b>

Joints appropriate for joining stiles and rails include dowels, mortise and tenon, and loose tenon.

**Question 12**

Marks	0	1	Average
%	73	27	<b>0.3</b>

When answering questions related to the case study, it is important to remember to refer back to the drawings and specifications provided. Many students did not attempt this question.

A small allowance must be made for the thickness of the upholstery fabric. The specifications identify that there is to be a 1 mm allowance for upholstery fabric between the frame and the legs. A 1 mm allowance for upholstery on each side of the back frame will result in the back frame being 2 mm less than the distance between the back legs. It is important to understand how the allowance for upholstery impacts measurements and calculations of furniture frames.

**Question 13**

Marks	0	1	Average
%	81	19	<b>0.2</b>

It is important to understand the names and purposes of commonly used methods in furniture making. Chair legs have a 3 mm arris to prevent chipping of the ends of the legs when the chair is moved across the floor. The large 3 mm arris on chair legs is not a tactile or visual feature. Many students did not attempt this question.

**Question 14**

Marks	0	1	Average
%	39	61	<b>0.6</b>

The correct answer was a sliding bevel, which is used to transfer and mark angles.

**Question 15**

Marks	0	1	2	3	4	5	Average
%	72	1	8	2	1	17	<b>1.2</b>

It is important to understand mathematical principles for making basic calculations, such as using measurements to calculate the spatial size of materials and their cost and recording results to the required level of detail. Many students did not attempt this question. The correct calculation was as follows.

No. of pieces x Length (converted to metres) x Width (converted to metres) x \$ per square metre.

$$4 \times 0.45 \times 0.45 = 0.81 \quad 0.81 \times \$110 = \mathbf{\$89.10}$$

$$4 \times 0.45 \times 0.26 = 0.468 \quad 0.468 \times \$80 = \mathbf{\$37.44}$$

**\$126.54**

Foam list							
Item	No. of pieces	Length	Width	Thickness	\$/square metre	Total square metres	Item cost
seat	4	450	450	50	\$110	0.81	\$89.10
back rest	4	450	260	50	\$80	0.468	\$37.44
<b>Total cost</b>							<b>\$126.54</b>