



Province of the
EASTERN CAPE
EDUCATION

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Provinsie van die Oos Kaap: Departement van Onderwys
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NATIONAL SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2025

CIVIL TECHNOLOGY: WOODWORKING MARKING GUIDELINE

MARKS: 200

This marking guideline consists of 18 pages including 6 answer sheets.

QUESTION 1: SAFETY AND MATERIAL (GENERIC)

- 1.1 1.1.1 760 mm x 560 mm (1)
- 1.1.2 3,7 m (1)
- 1.1.3 30° (1)
- 1.1.4 50° (1)
- 1.1.5 510 mm (1)
- 1.2 Any TWO materials that ladders are generally made of:
 - Wood
 - Aluminium
 - Fibreglass (2 x 1) (2)
- 1.3 - Lifting medium
 - Power type (2 x 1) (2)
- 1.4 Water-based – provides an elastic, flexible finish (1)
 Oil-base – provides a hard, durable finish (1) (2 x 1) (2)
- 1.5 Any THREE properties of the curing process of concrete.
 - Surface of cured concrete is durable.
 - Improves the protection of the steel reinforcement.
 - Curing allows concrete to achieve optimal strength and hardness.
 - Avoids cracking where the surface dries out quickly.
 - Improves abrasion resistance. (3 x 1) (3)
- 1.6 THREE advantages of electroplating.
 - Protects metal against corrosion.
 - Improves the engineering and mechanical properties of metal.
 - May also be used to increase the thickness of undersized parts. (3 x 1) (3)
- 1.7 Process of applying a plastic finish / coating in powder form (1), using a
 compressed air spray-gun (1). (2)
- 1.8 Zinc (1)
- [20]**

QUESTION 2: EQUIPMENT, TOOLS AND JOINING (GENERIC)

- 2.1 FIGURE 2.1 on ANSWER SHEET A
- 2.1.1 Outside door at 2.1.A (2)
- 2.1.2 Window at 2.1.B (2)
- 2.1.3 Water closet at 2.1.C (2)
- 2.1.4 Wash basin at 2.1.D (2)
- 2.1.5 Single sink unit at 2.1.E (2)
- 2.1.6 One-way switch – single pole at 2.1.F (2)
- 2.1.7 Fluorescent light at 2.1.G (2)
- 2.1.8 Socket outlet at 2.1.H (2)
- 2.1.9 Grease trap at 2.1.I (2)
- 2.1.10 Wall-mounted light at 2.1.J (2)
- 2.2 2.2.1 A – Laser level
B – Telescopic staff
C – Tripod (3)
- 2.2.2 Any TWO below:
 - Place the laser level in its case directly after use
 - Do not bump the instruments against objects or drop it
 - It must be properly calibrated
 - It must be handled carefully (2 x 1) (2)
- 2.3 2.3.1 The reading on the staff is 1,5 m (1)
- 2.3.2 Minimum = 30 m
Maximum = 200 m (2)
- 2.4 2.4.1 Use a dry, soft cloth not a cleaning agent or solvent. (1)
- 2.4.2 Remove batteries. (1)
- 2.5 **A** Nut with built-in washer (1)
- B** Wing nut (1)
- C** Domed nut (1)

- 2.6 2.6.1 Rawl bolt (1)
- 2.6.2 **A** – Drill a hole to the required diameter and depth. (1)
- B** – Remove debris and clean the hole thoroughly with a brush or by blowing it. (1)
- C** – Remove the bolt and washer, insert the shield and place the fixture over the hole. (1)
- D** – Insert the bolt with washer through the fixture and tighten to the recommended torque. (1)
- 2.6.3 Any TWO below:
- It is a strong fastener that resists pull-out failure.
 - Rawl bolts have excellent carrying capacity and tolerance to a variance in the hole size.
 - Excellent mechanical properties, such as tensile strength and yield stress.

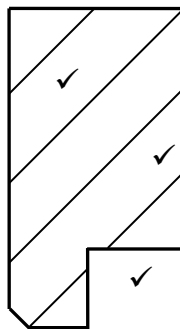
(2)
[40]

TOTAL SECTION A: 60

QUESTION 3: CASEMENT, CUPBOARDS, WALL- PANELLING AND QUANTITIES (SPECIFIC)

- 3.1 3.1.1 Sill (1)
- 3.1.2 Fanlight (1)
- 3.1.3 Mullion (1)
- 3.1.4 Frame stiles (1)
- 3.1.5 Front rail (1)

3.2



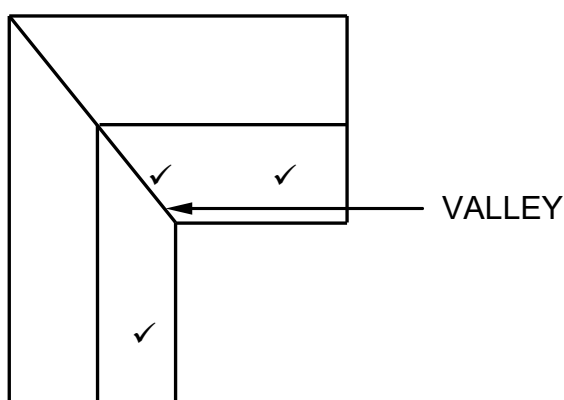
ASSESSMENT CRITERIA	MARK
Correctness of drawing:	
Top rail	1
Rebate	1
Hatching	1
TOTAL:	3

- 3.3 3.3.1 **A** Ceiling (1)
- B** Cornice (1)
- C** Capping (1)
- D** Horizontal rough grounds (1)
- E** Tongue and groove boards (1)
- 3.4 See ANSWER SHEET **B** (8)
- 3.5 See ANSWER SHEET **C** (9)
- [30]**

**QUESTION 4: ROOFS, CEILINGS, TOOLS AND EQUIPMENT AND MATERIALS
(SPECIFIC)**

- 4.1 4.1.1 C (1)
- 4.1.2 E (1)
- 4.1.3 G (1)
- 4.1.3 B (1)
- 4.1.5 A (1)
- 4.1.6 D (1)
- 4.2 4.2.1 Band saw (1)
- 4.2.2 Any TWO safety precautions to ensure safe handling of the blade.
- Always check the tension of the blade.
 - Always check the alignment of the blade.
 - Ensure that the blade guide and blade support are in the right position.
 - Always use the right blade for specific work and ensure that the teeth are pointing downwards.
 - Always adjust the top blade guide 6 mm above the stock.
 - If the blade becomes stuck, switch off the machine before trying to release the blade.
 - Always avoid backing up or pulling out the blade while it is in cut, this can cause the blade to derail from the guides. (2 x 1) (2)
- 4.2.3 • Do not force the material onto the blade.
- Avoid the use of blunt blades. (2 x 1) (2)
- 4.3 4.3.1 Strength (1)
- 4.3.2 Clean the brush in thinners after each application (1)
- Loosen and dry the bristles with a cloth and hang up the brush to dry (1)
- 4.3.3 Any TWO width of timber when selecting timber for roof trusses
- 38 mm
 - 50 mm
 - 76 mm
 - 114 mm
 - 152 mm
 - 228 mm (2)

- 4.4 4.4.1 Any TWO parts of a conventional trap door
- Timber framework
 - Panel
 - Cover strip
- (2)
- 4.4.2 38 mm x 38 mm
- (2)
- 4.5 4.5.1 Polypropylene
- (1)
- 4.5.2 Synthetic or any water proofing material
- (1)
- 4.5.3 Special aluminium foil
- (1)
- 4.6 Top view of a roof with a valley between two inclined roofs.



ASSESSMENT CRITERIA	MARK
Inclined roof on top	1
Valley	1
Inclined roof on left	1
TOTAL:	3

(3)

- 4.7 4.7.1 Hurricane clip
- (1)
- 4.7.2 Storm clip
- (1)
- 4.7.3 Truss hanger
- (1)
- 4.8 4.8.1 **A** Rafter joist
- (1)
- B** Hip/Corner rafter
- (1)
- C** Wall plate
- (1)
- D** Ceiling joist
- (1)
- E** Jack rafter
- (1)

4.8.2 Hipped-end roof is a roof with two slanting ends (1), sometimes across a short flat gable. (1) (2)

4.8.3 Eaves are portions of roof that projects (1) beyond the outside walls of a building. (1) (2)

4.8.4 Difference between *open eave* and *closed eave*.

Any ONE from open eave and any ONE from closed eave

Open eaves:

- Roof timber is visible
- Birds nest under the open eave
- Beam filling is compulsory (1)

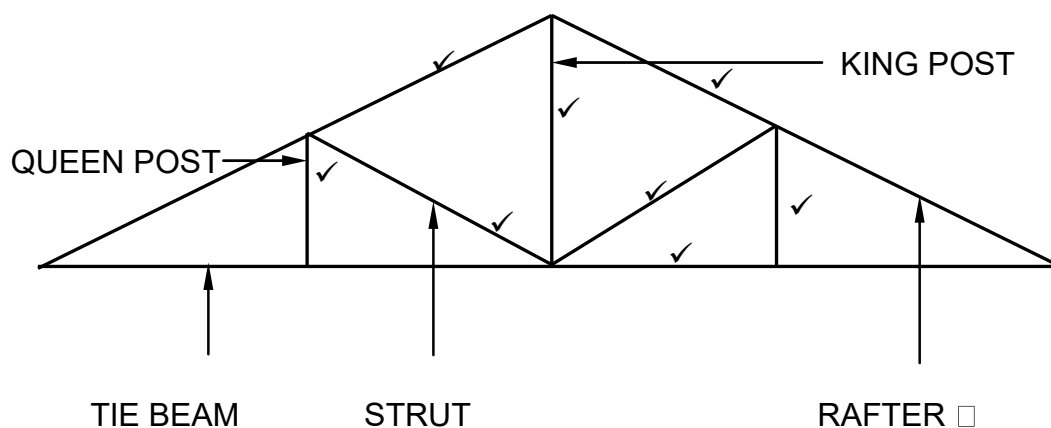
Closed eave:

- Provides more attractive finish
- Prevent birds from nesting in the roof space
- Beam filling is not compulsory (1)

[40]

QUESTION 5: CENTERING, FORMWORK, SHORING, AND GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)

- 5.1 5.1.1 **D** Bearer (1)
- E** Horizontal brace (1)
- 5.1.2 To secure the ribs firmly. (1)
- 5.2 5.2.3 (1)
- 5.2.5 (1)
- 5.2.1 (1)
- 5.2.2 (1)
- 5.2.4 (1)
- 5.3 Line diagram of SA(Howe) roof truss.



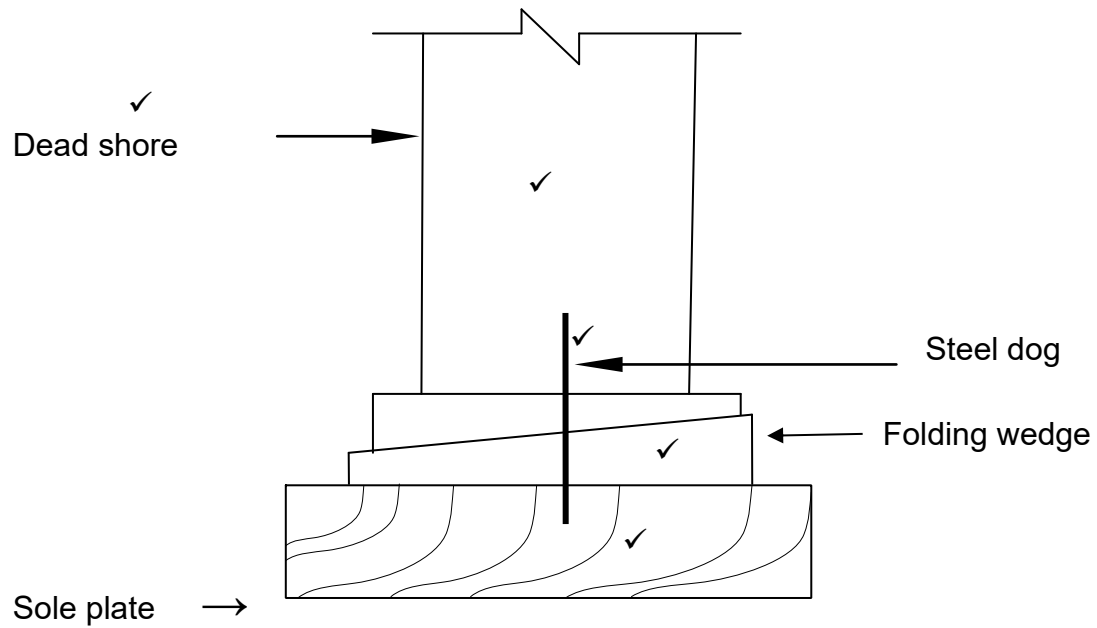
ASSESSMENT CRITERIA	MARK
Correctness of drawing:	
Rafters	2
King post	1
Queen posts	2
Struts	2
Tie beam	1
Label (Any ONE)	1
TOTAL:	9

(9)

5.4 See ANSWER SHEET 5.4

(7)

5.5



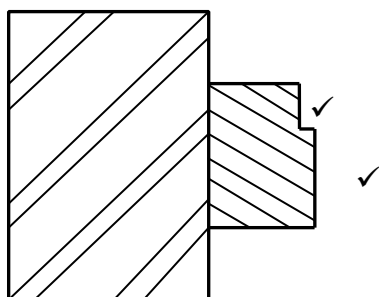
ASSESSMENT CRITERIA	MARK
Dead shore	1
Steel dog	1
Folding wedge	1
Soleplate	1
Any ONE label	1
Proportion	1
TOTAL:	6

(6)
[30]

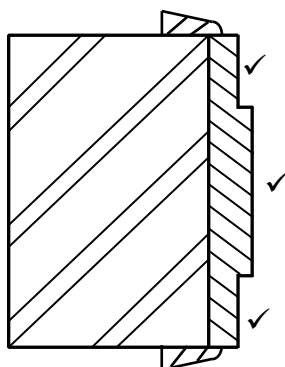
QUESTION 6: SUSPENDED TIMBER FLOORS, STAIRCASES, IRONMONGERY, DOORS AND JOINING (SPECIFIC)

- 6.1 6.1.1 C (1)
- 6.1.2 D (1)
- 6.1.3 C (1)
- 6.1.4 B (1)
- 6.1.5 B (1)

6.2

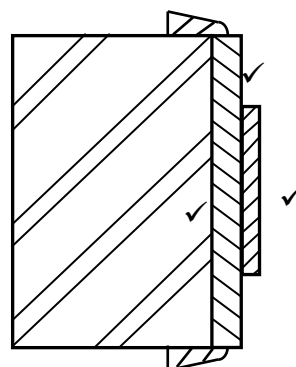


Doorframe ✓



Jamb lining

OR



Assessment criteria	Mark
Frame profile of door	2
Jamb lining profile	3
ANY title	1
TOTAL:	6

(6)

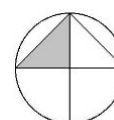
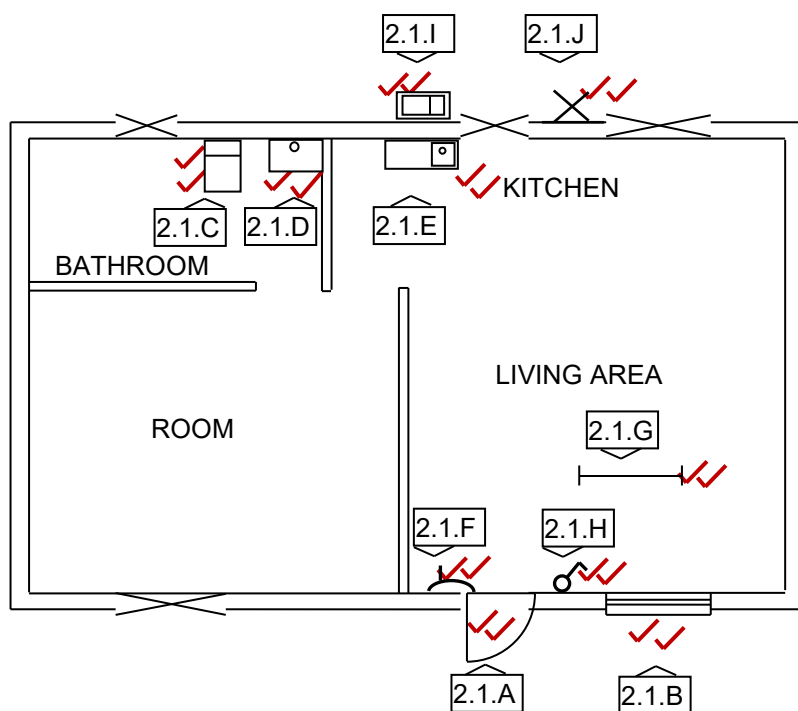
6.3 See ANSWER SHEET D

(6)

6.4	6.4.1	Floor boards	(1)
	6.4.2	Bearer	(1)
	6.4.3	Ant guard	(1)
	6.4.4	Damp proof coarse	(1)
	6.4.5	Brick pier/brick wall	(1)
	6.4.6	Foundation	(1)
6.5	(1) prevent the damp in the debris to spread (2) to floor members		(2)
6.6	Mortise lock: More substantial build-in lock. Fitted inside a mortise slot, cut into the side edge of the wooden door. Night latch: Surface mounted secondary lock. Mounted on the interior surface of the door.		(4)
6.7	6.7.1	A Floor joists built into the wall	(1)
		B Floor joists bolted into the wall	(1)
	6.7.2	It reduces the length of the floor joists needed	(1)
6.8	See ANSWER SHEET E		(6)
6.9	Handrail assist people when ascend or descend stairs		(1)
	Balustrades are fixed to handrails to form a safe structure		(1)
			[40]
TOTAL:			200

ANSWER SHEET (2.1)	A	CIVIL TECHNOLOGY (GENERIC)	NAME AND SURNAME:	

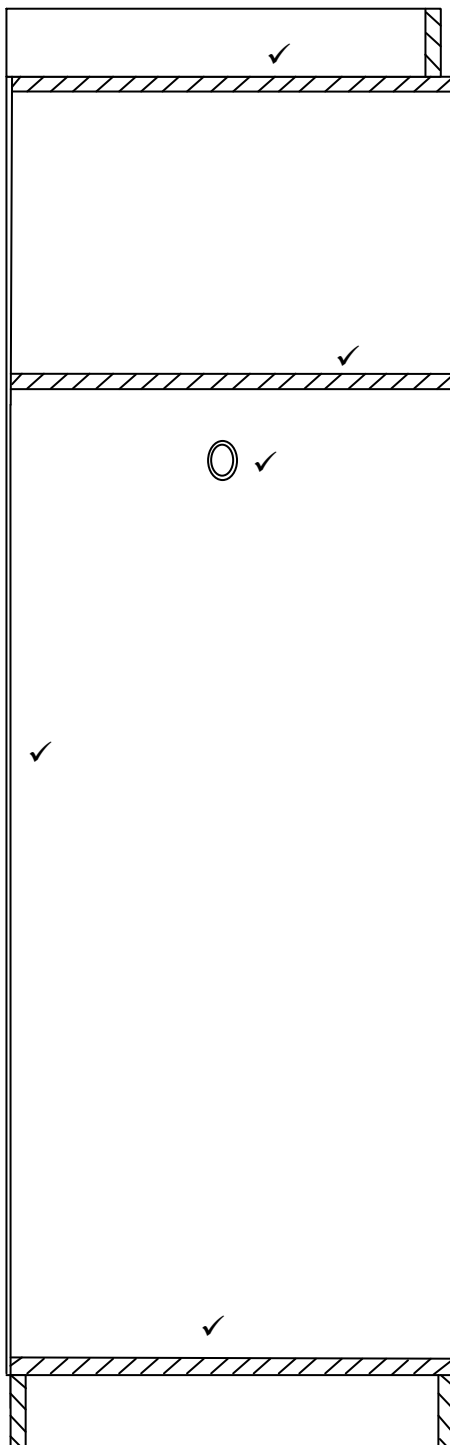
- 2.1 Use the information on ANSWER SHEET A and complete the floor plan on scale 1 : 100. (20)



Outside door at 2.1.A	2	
Window at 2.1.B	2	
Water closet at 2.1.C	2	
Wash basin at 2.1.D	2	
Single sink unit at 2.1.E	2	
One-way switch – single pole at 2.1.F	2	
Fluorescent light at 2.1.G	2	
Socket outlet at 2.1.H	2	
Grease trap at 2.1.I	2	
Wall-mounted light at 2.1.J	2	
TOTAL:	20	

ANSWER SHEET (3.4)	B	CIVIL TECHNOLOGY (SPECIFIC)	NAME AND SURNAME:	

Use ANSWER SHEET 3.4 and draw a vertical sectional view of the cupboard to scale 1 : 10.



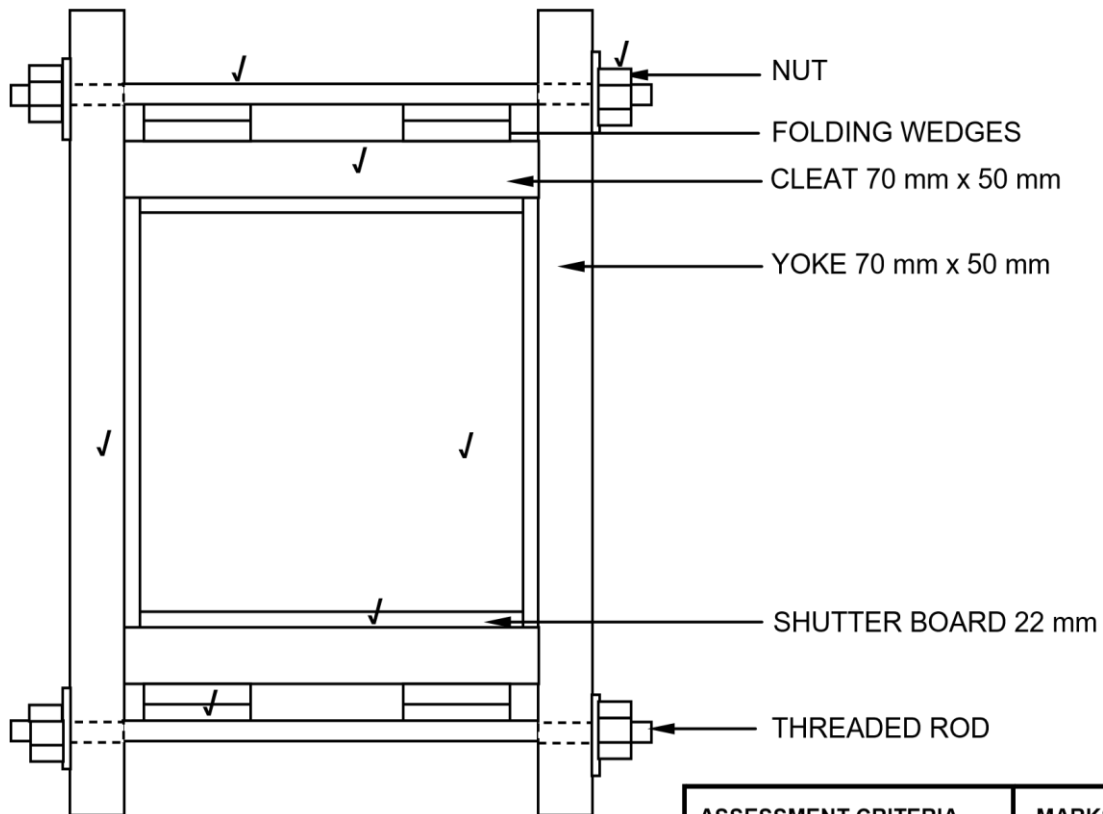
ASSESSMENT CRITERIA	MARK	CM
Front rail	1	
Top shelf	1	
Middle shelf	1	
Hanging rail	1	
Kick plate	1	
Back of cupboard	1	
Application of scale:		
Correct height	1	
Correct depth	1	
TOTAL:	8	

ANSWER SHEET (3.5)	C	CIVIL TECHNOLOGY (SPECIFIC)	NAME AND SURNAME:	

DIMENSION PAPER

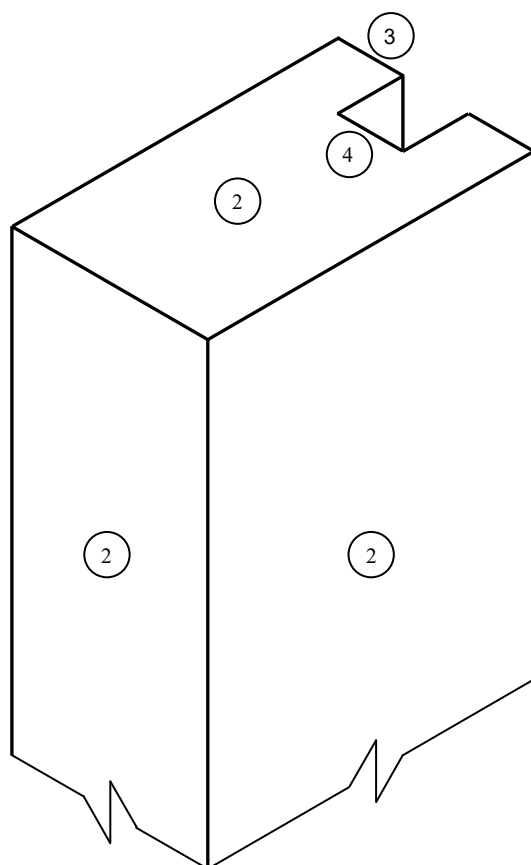
A	B	C	D
Area of roof underlay for the building:			
Distance between gable ends = 8 560 mm ✓			
2/ ✓	8,56 ✓		
	3,60 ✓	54,43 ✓	Length of rafter = 3 600 mm
			54,43 m roof under lay is needed
			Number of roofing sheets
			= Width of roof
			Cover width of roofing sheets
			= 9 300 mm ✓
			610 mm
			= 15,24 ✓
			= 16
			Total number of roofing sheets for two sides of the roof:
			= 16 + 16 ✓
			= 32 sheets ✓

ANSWER SHEET (5.4)	D	CIVIL TECHNOLOGY (SPECIFIC)	NAME AND SURNAME:	



ASSESSMENT CRITERIA	MARKS	LM
Column	1	
Shutter board	1	
Yokes	1	
Cleats	1	
Wedges	1	
Threaded bolts	1	
Nuts	1	
Application of scale		
One or two incorrect = 3		
Three or four incorrect = 2		
More than five incorrect = 1		
No measurement correct = 0		
TOTAL	7	

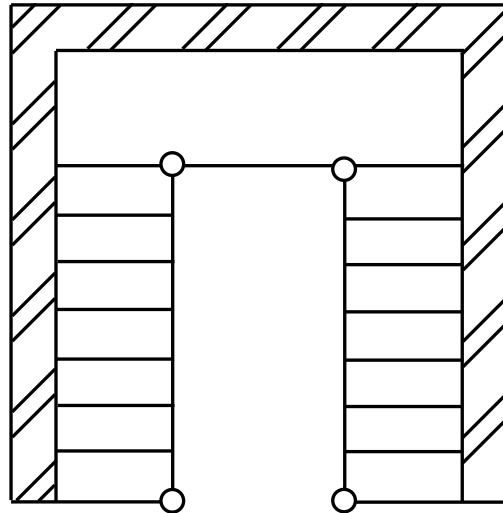
ANSWER SHEET (6.3)	E	CIVIL TECHNOLOGY (SPECIFIC)	NAME AND SURNAME:	



CORRECTNESS OF STILE: ①

NO	ASSESSMENT CRITERIA	MARK
1	Correctness of the stile	1
2	Stile surface	3
3	Shoulder	1
4	Groove	1
	TOTAL :	6

ANSWER SHEET (6.8)	F	CIVIL TECHNOLOGY (SPECIFIC)	NAME AND SURNAME:	



Correctness

ASSESSMENT CRITERIA	MARK	CANDIDATE'S MARK
Treads on each flight of stairs	2	
Half landing	1	
Newel post	1	
Open well	1	
Correctness of drawing	1	
TOTAL:	6	

(6)