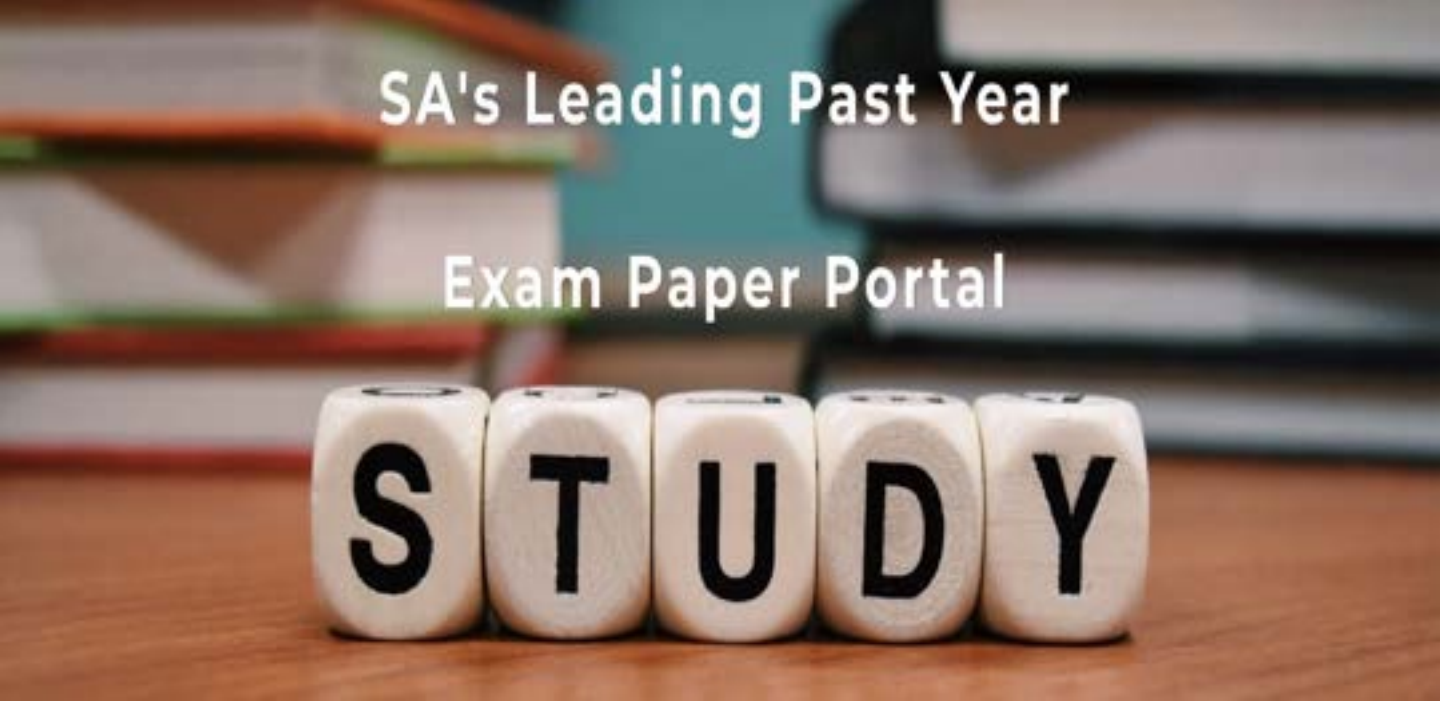

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GRADE 12

CIVIL TECHNOLOGY: WOODWORKING

NOVEMBER 2022

MARKING GUIDELINES

MARKS: 200

These marking guidelines consist of 21 pages.

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INSTRUCTIONS FOR THE MARKERS

1. Markers should:

- Familiarise themselves with the question and answer before evaluating responses from candidates.
- Always interpret the responses of the candidates within the context of the question.
- Consider any relevant and acceptable answer during pre-marking but should strictly adhere to the answers after finalisation of the marking guideline.
- There are TWO approaches to answering questions; these are (1) to explain and (2) to describe.
  1. If a candidate is required to explain a process in a specific number of steps, only the first required number of responses should be considered.
  2. However, if for example a candidate is required to explain or describe a process, we need to consider that candidates may write a long description, not necessarily well organised. In this case the marker needs to evaluate the complete statement to judge if the candidate explained the required outcome satisfactorily and allocate marks on merit.
- Mark what the candidate wrote and do not interpret or predict responses.
- Indicate the tick or cross right at the position where the mark needs to be awarded or where the candidate made the error.
- Accept the letter corresponding with the correct answer as well as the answer written in full in multiple-choice or similar questions.
- Accept incorrect spelling in answers unless the spelling changes the meaning of the answer.
- If a learner writes two or more answers separated by a slash (/) mark only the first response, unless the additional answer/s are different names for the same item e.g., Yale lock/Night latch. In this case, the answer for the response should be awarded and the slash (/) should NOT be considered as an additional answer.

2. For calculations:

- A mark is only awarded if the correct unit is written next to the answer. If the question states that the answer must be in a specific unit, a mark will ONLY be awarded if the answer has the correct unit as indicated in the question.
- Marks will only be allocated for the correct values if the candidates add are instead of multiply. NO marks will be awarded for the calculations and the answer.

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- Where an incorrect answer is correctly carried over, the marker must recalculate the values, using the incorrect answer from the first calculation. If correctly used, the candidate should receive the full marks for subsequent calculations.

- Alternative methods of calculations must be considered, provided that the correct answer is obtained.

- For the calculation of quantities marks will be awarded for the correct use of the dimension paper.

3. When marking drawings:

- The member for which the mark should be awarded must be drawn correctly in the correct position to receive a mark.

- A member incorrectly drawn but wrongfully repeated in another position will be awarded the mark for the repeated incorrect member provided that the marking guideline provide for TWO or more marks for that member (positive marking).

- Marks can only be awarded for a label if the label is correctly indicating the correct member that was drawn. Do not consider labels for members that were provided with labels on the answer sheet.

- Scale drawings should always be marked using an appropriate mask.

- If the incorrect/wrong drawing was drawn, the candidate can be awarded for only what was provided for on the marking guideline.

- If a two-dimensional drawing is required and a line diagram/pictorial/isometric drawing is drawn, members will be marked according to the assessment criteria and no marks will be awarded for the correctness of the drawing.

- If candidates draw/give more information than what is required, mark strictly according to the assessment criteria.

- The marks for the correctness of the drawing will only be awarded if the entire drawing with all members/parts is correctly drawn.

4. Incorrect numbering of questions:

- If a candidate numbered an answer incorrectly, but the answer is in the correct position according to the sequence of the questions in the question paper, circle the incorrect numbering and mark the response.

- If questions were answered randomly not following the same sequence as in the question paper and the learner numbered incorrectly, the response should NOT be marked.

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5. Duplication of responses and questions answered in the incorrect place:

- If a question is answered twice, mark the first response.
- If a question should be answered on an answer sheet and the candidate answered it on both the answer sheet and in the answer book, mark the response on the answer sheet and cancel the response in the answer book.
- If the question was answered in the answer book instead of on the answer sheet, mark the response in the answer book according to the assessment criteria on the marking guideline.

QUESTION 1: OHSA, MATERIALS, TOOLS, EQUIPMENT AND JOINING (GENERIC)

1.1 1.1.1 Oil or water-based paint ✓ (1)

1.1.2 Increases the strength of concrete ✓ (1)

1.1.3 Electrolysis ✓ (1)

1.1.4 Plastic ✓ (1)

1.1.5 Zinc ✓ (1)

1.2 1.2.1
- 50º/50 degrees ✓
- 38°/38 degrees
- 42°/42 degrees

ANY ONE OF THE ABOVE (1)

1.2.2
- Ensures stair rails/handrails/railings and or balustrades are in place ✓
- Keep treads free of dangerous obstacles
- Keep treads free of protruding nails
- Post warning signs
- Ensure there is sufficient lighting
- Ensure the surface is not slippery

ANY ONE OF THE ABOVE (1)

1.2.3
- To keep concrete in position ✓
- To enable the filling of concrete
- To act as formwork
- To shape the treads

ANY ONE OF THE ABOVE (1)

1.3 When transporting/carrying long ladders:
- Ensure that it does not protrude excessively ✓
- Tie a red or orange flag/warning signs to the end of the ladder ✓
- Ensure that the ladder is firmly secured to the vehicle
- Protect the ladder during transportation or while carrying it
- Two people should carry the ladder
- It should be carried horizontally and on the same side

ANY TWO OF THE ABOVE (2)

1.4
- Safety net/Net ✓
- Catch platform

ANY ONE OF THE ABOVE (1)

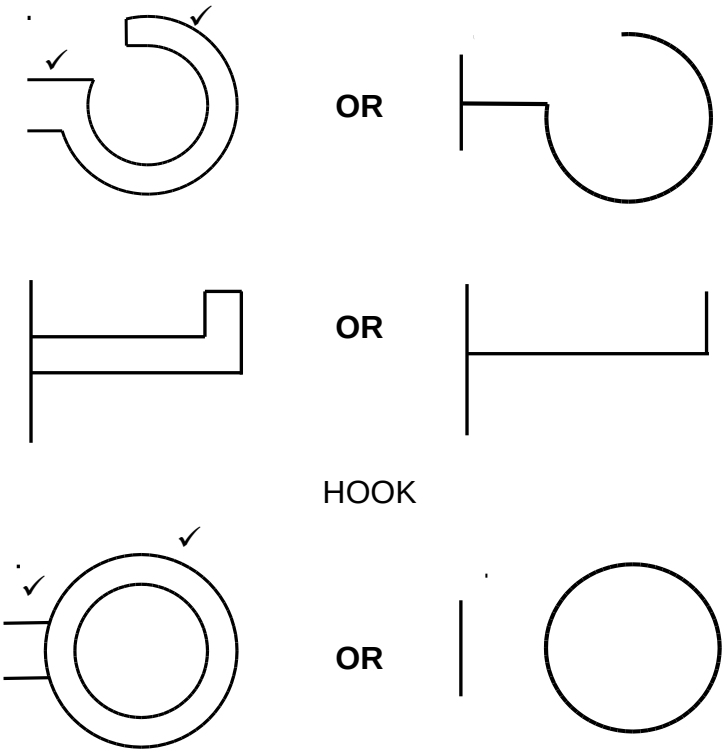
1.5 Brace/Strut ✓ (1)

1.6 If the scaffold planks protrude more than 230 mm beyond the last support:
- The scaffold planks might tilt if worker steps on it ✓
- The worker might fall from scaffold
- It might be hazardous to workers working around the scaffold

ANY ONE OF THE ABOVE (1)

1.7 3 m/3 000 mm ✓ (1)

1.8



(4)

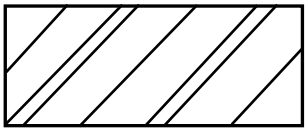
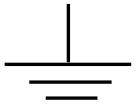
1.9 1.9.1 Multi-detector ✓ (1)

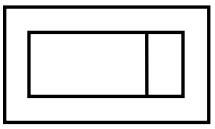
1.9.2 Laser level/Spirit level/Transparent pipe level ✓ (1)

[20]

QUESTION 2: GRAPHICS AS MEANS OF COMMUNICATION (GENERIC)

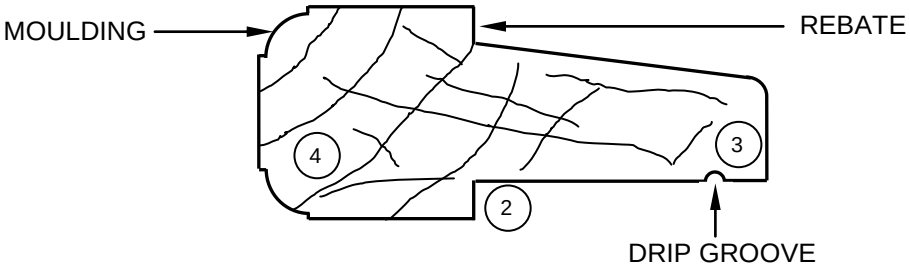
NO.	QUESTIONS	ANSWERS	MARKS
1	Name the FIGURE that represents the ground floor. Give ONE reason for your answer.	Ground floor: B/FIGURE B ✓ FIGURE B shows: No roofline/ Roofline in FIGURE A/ Garage/Arrows on the staircase/Ramp/Door at lounge/Entrance door/Garage door/ Balcony in FIGURE A ✓	2
2	Deduce the scale that was used to draw the floor plan of the house from the given building plan.	1:100 ✓	1
3	Identify number **1**.	Landing ✓	1
4	Identify number **4**.	Balcony/Cantilever ✓	1
5	Identify number **5**.	Shower ✓	1
6	Identify number **6**.	Wash hand basin/Wash basin/Basin/WHB ✓	1
7	Give the abbreviation for the symbol at number **7**.	WC ✓	1
8	Identify number **8**.	Ramp ✓	1
9	Identify number **9**.	Roll-up door/Garage door ✓	1
10	Identify number **10**.	Fluorescent light ✓	1
11	Identify the number that indicates the wall mounted light.	No 11/11 ✓	1
12	Give the abbreviations for the following: • Finished floor level • Natural ground level	FFL ✓ NGL ✓	2
13	Name a suitable material that can be used for constructing number **2**.	Concrete/Wood/Aluminium/Steel/ Masonry/Bricks/Glass ✓	1

14	Recommend ONE use for the area indicated by number **3**.	Coffee nook/Kitchen/Playroom/ Private lounge/Office/TV room/ Bar/Dining room/Storage space/Any use with utility value ✓	1
15	Recommend ONE permanent fixture for bedroom 1 that can be used for storage.	Built-in cupboard/BIC/Cupboard/ Closet/Bookshelf/Desk/ Drawer unit ✓	1
16	Who is the architect that was responsible for the drawing?	HB Nel ✓	1
17	Describe what is indicated by the arrows on the staircase in FIGURE **B**.	Direction of the rise of the stairs ✓	1
18	State what was done during revision 1 and revision 2 of the house plan.	Revision 1 – Drawing of sanitary fitments ✓ Revision 2 – Drawing of staircase ✓	2
19	Deduce the reference code from the building plan.	QP 6 – 2022 ✓	1
20	Who must be notified when a contractor sets out levels on a site and there are variances?	Architect/HB Nel ✓	1
21	Identify ONE important fixture that is omitted in the bathroom.	Ceiling light/Light/Light switch/ Switch/Fan light/Extractor fan/ Bath/Bidet/Socket outlet/Cabinet ✓	1
22	Draw the symbol for face brick.	 ✓✓	2
23	Draw the electrical symbol for earth.	 ✓✓	2

<table>
<tr><td>24</td><td>Draw the symbol for a grease trap.</td><td>  ✓✓</td><td>2</td></tr>
<tr><td>25</td><td>Prove by means of a control test that the total vertical dimensions on the left and right of the plan in FIGURE B are equal.</td><td>Total vertical dimensions:
<table><tr><td>Control test left</td><td>Control test right</td></tr><tr><td>220 ✓</td><td>2 960 ✓</td></tr><tr><td>5 450 ✓</td><td>110 ✓</td></tr><tr><td>220 ✓</td><td>2 820 ✓</td></tr><tr><td colspan="2">5 890 = 5 890 ✓</td></tr></table>OR
Left side:
220 + 5 450 + 220 = 5 890 mm
Right side:
2 960 + 110 + 2 820
= 5 890 mm
Note: If the alternative method is used, one mark should be allocated if both totals are the same.</td><td>7</td></tr>
<tr><td>26</td><td>Calculate the area of the first floor. Show ALL calculations. Give your answer in m².</td><td>= 5,89 ✓ m x 8,11✓ m
= 47,77 ✓m²
OR
= 5 890 mm x 8 110 mm
= 47,77 m²
(47,7679 m^2/47,8 m^2/48,0 m^2)</td><td>3</td></tr>
<tr><td></td><td></td><td>TOTAL:</td><td>40</td></tr>
</table>

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

3.1



CORRECTNESS OF TRANSOM: (1)

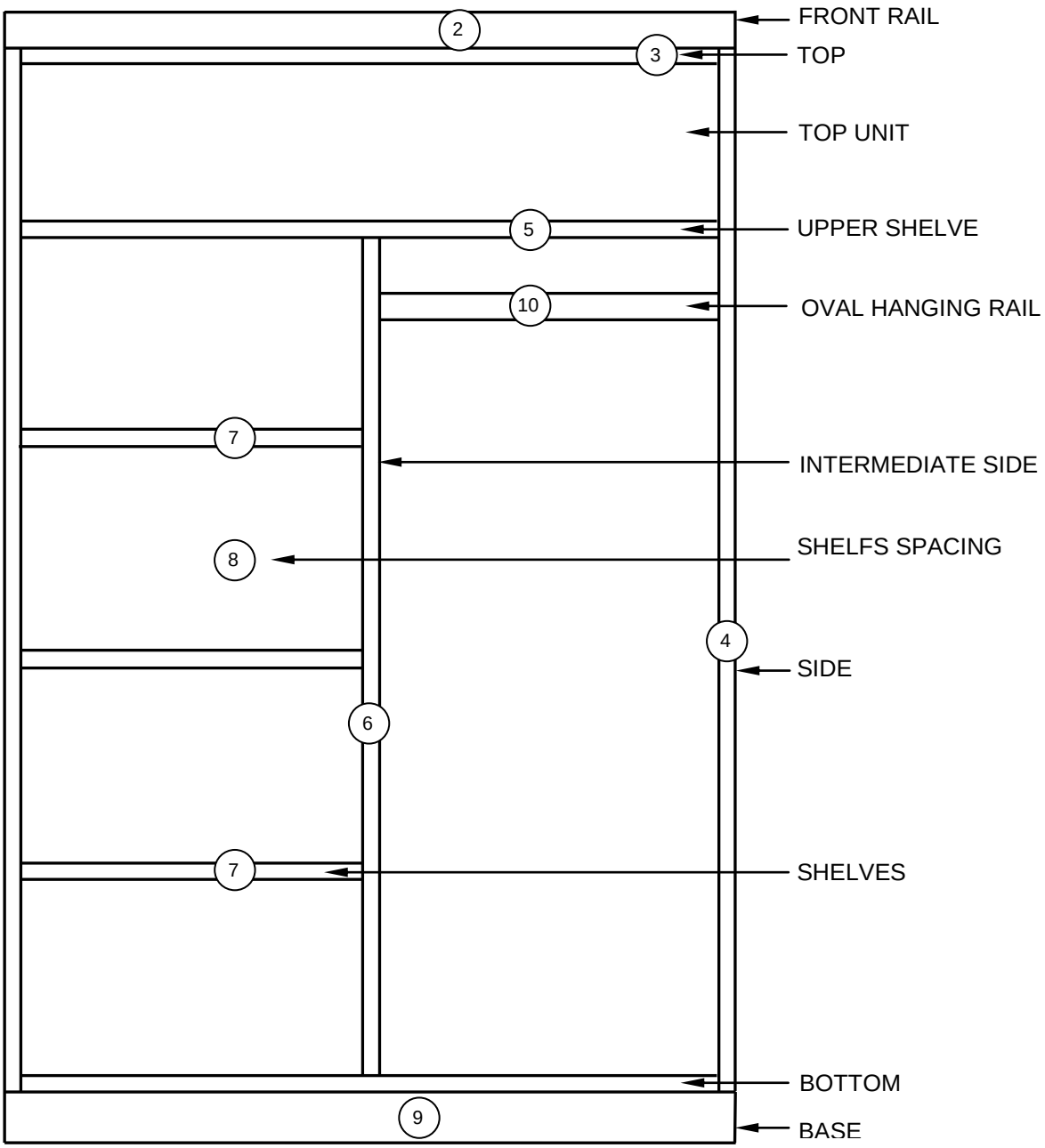
NO	ASSESSMENT CRITERIA	MARK
1	Correctness of transom	1
2	Rebate	1
3	Drip groove	1
4	Hatching	1
	TOTAL:	**4**

(4)

3.2 **CORRECT USE OF DIMENSION PAPER:** (1)

	A	B	C	D	
3.2.1				**Number of roof trusses**	
				Internal dimension / Distance between centres + 1	
				$= \frac{6{,}56\ \checkmark}{1} + 1\ \checkmark$	
				= 6,56 + 1	
				= 7 +1	
				= 8 roof trusses ✓	(3)
3.2.2				**Total length of bargeboard needed**	
	4/ ✓	2,525 ✓	10,1 m ✓	Length of bargeboard = Length of rafter + diameter of gutter + 50 mm	
				= 2 400 + 75 + 50 ✓✓	
				= 2 525 mm	
				= 2,525 m ✓	
				10,1 m bargeboard needed	(6)

3.3

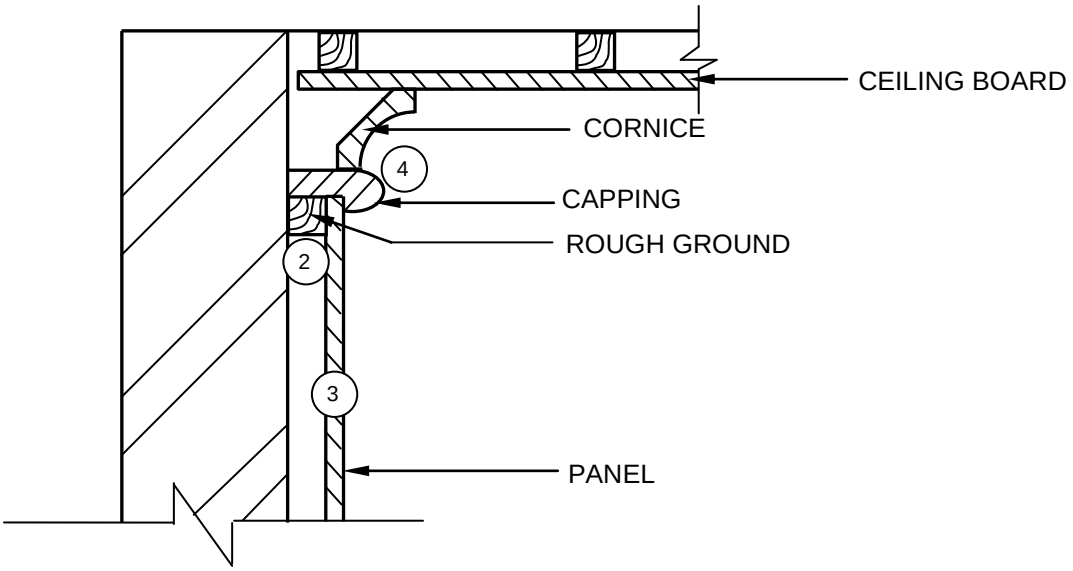


CORRECTNESS OF CUPBOARD: (1) (1)

NO.	ASSESSMENT CRITERIA	MARK
1	Correctness of cupboard	2
2	Front rail	1
3	Top	1
4	Sides	1
5	Upper shelve	1
6	Intermediate side	1
7	Three shelves	2
8	Shelves equally spaced	1
9	Base	1
10	Oval hanging rail	1
	TOTAL:	**12**

(12)

3.4



CORRECTNESS OF TOP PART OF THE WALL PANELLING: (1)

NO	ASSESSMENT CRITERIA	MARK
1	Correctness of top part of wall panelling	1
2	Rough ground	1
3	Panel	1
4	Capping (any shape)	1
	TOTAL:	**4**

(4)

[30]

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

4.1 4.1.1 H ✓ (1)

4.1.2 D ✓ (1)

4.1.3 B ✓ (1)

4.1.4 G ✓ (1)

4.1.5 C ✓ (1)

4.1.6 F ✓ (1)

4.1.7 A ✓ (1)

4.1.8 E ✓ (1)

4.2 4.2.1 **A** – Radial arm saw ✓
B – Table saw ✓ (2)

4.2.2 When doing cross-cutting on the radial arm saw:
- The work must be held firmly on the table ✓
- Grip the handle with your right/left hand ✓
- Move the saw behind the guide fence when moving the stock
- Always start the cut from behind the guide fence
- Keep the stock steady when sawing is started
- The saw has to be pulled through the stock by means of a back pressure action
- Keep hands/fingers away from the rotating blade
- Wear safety goggles

ANY TWO OF THE ABOVE (2)

4.2.3 Caring for electrical cords:
- Repair or replace damaged electrical cords ✓ (1)

4.2.4 Caring for blades:
- Avoid the use of blunt blades ✓
- Apply oil to the blades
- Do not force material into the blades
- Remove nails and foreign objects from wood before cutting (1)

ANY ONE OF THE ABOVE

4.3 Consequences if the stock is not fastened tightly in the lathe is that it can:
- Come loose ✓
- Cause damage to the machine/stock
- Cause injury to the worker

ANY ONE OF THE ABOVE (1)

4.4 The speed of the lathe is determined by:

- The type of work you are doing ✓
- The type of material ✓
- The size of the material
- The position of the belt on the pulleys

ANY TWO OF THE ABOVE (2)

4.5 Selecting timber for a table:

- The type of work that has to be done ✓
- The strength of the timber ✓
- The species/type of the timber
- The cost of the timber
- The workability of the timber
- The quality/condition of the timber

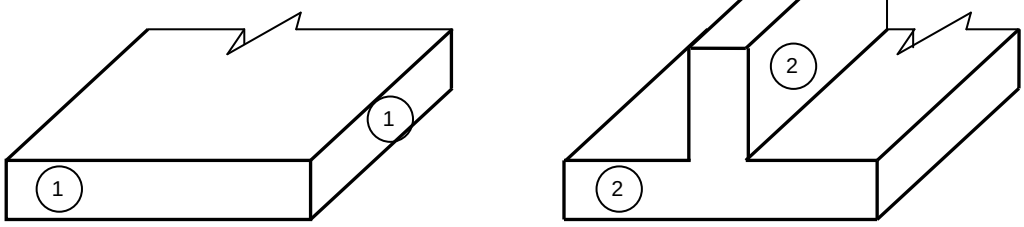
ANY TWO OF THE ABOVE (2)

4.6 4.6.1 The letter indicates the method of grading/visually or mechanically graded timber. ✓ (1)

4.6.2 SABS ✓ (1)

4.6.3 The number indicates the strength. ✓ (1)

4.7



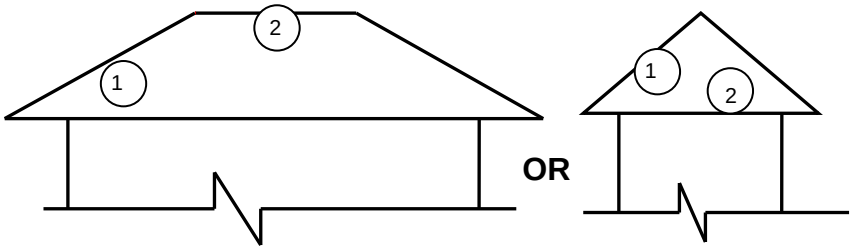
COVER STRIP METAL T-STRIP

CORRECT TITLES: (3)

NO.	ASSESSMENT CRITERIA	MARK
1	Cover strip correctly drawn	2
2	Metal T-strip correctly drawn	2
3	Correct titles	1
	TOTAL:	**5**

(5)

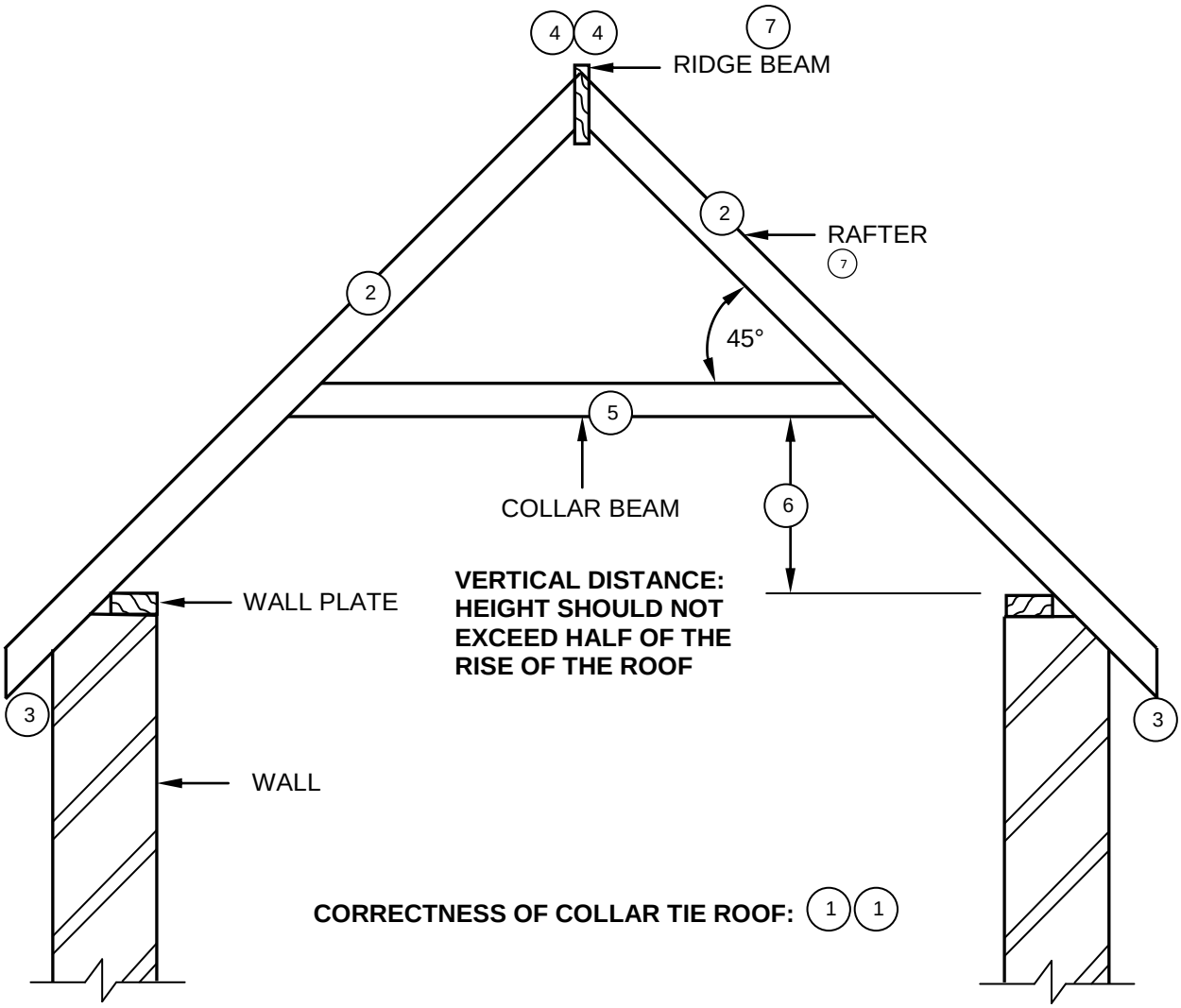
4.8



NO.	ASSESSMENT CRITERIA	MARK
1	Hip	1
2	Ridge **OR** Eave	1
	TOTAL:	**2**

(2)

4.9



(11)

NO	ASSESSMENT CRITERIA	MARK
1	Correctness of collar tie roof	2
2	Rafters at 45°	2
3	Overhang	2
4	Ridge beam	2
5	Collar beam	1
6	Vertical distance	1
7	Any ONE label	1
	TOTAL:	**11**

[40]

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

5.1 5.1.1 A ✓ (1)

5.1.2 C ✓ (1)

5.1.3 B ✓ (1)

5.1.4 A ✓ (1)

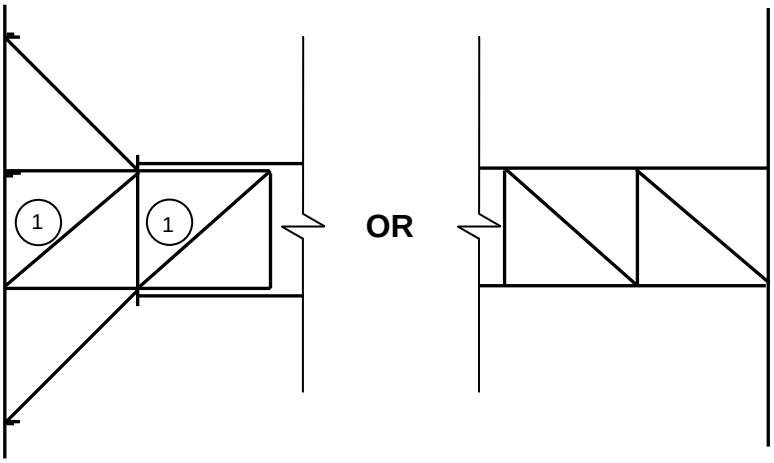
5.1.5 D ✓ (1)

5.2 5.2.1 Double flying shore ✓ (1)

5.2.2
- Needle ✓
- Cleat

ANY ONE OF THE ABOVE (1)

5.2.3



NO.	ASSESSMENT CRITERIA	MARK
1	Braces/Diagonal struts	2
	TOTAL:	**2**

(2)

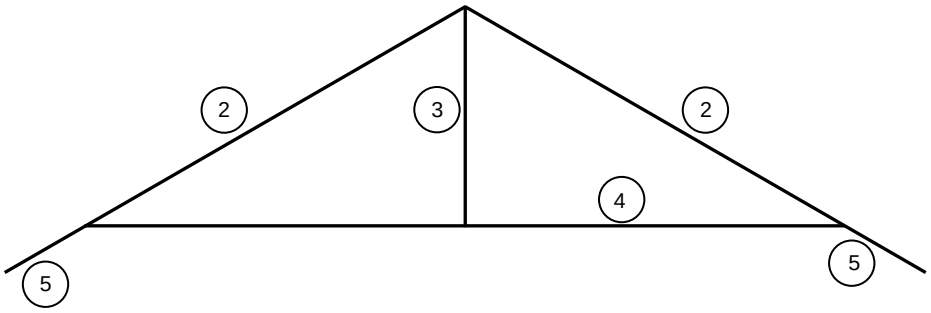
5.3 5.3.1 Needles support the weight of the wall/floor or roof. ✓ (1)

5.3.2 Folding wedges:

- Allow height adjustments ✓
- Used to tightly wedge the dead shores and props
- Ease the removal of the members of the shore

ANY ONE OF THE ABOVE (1)

5.4

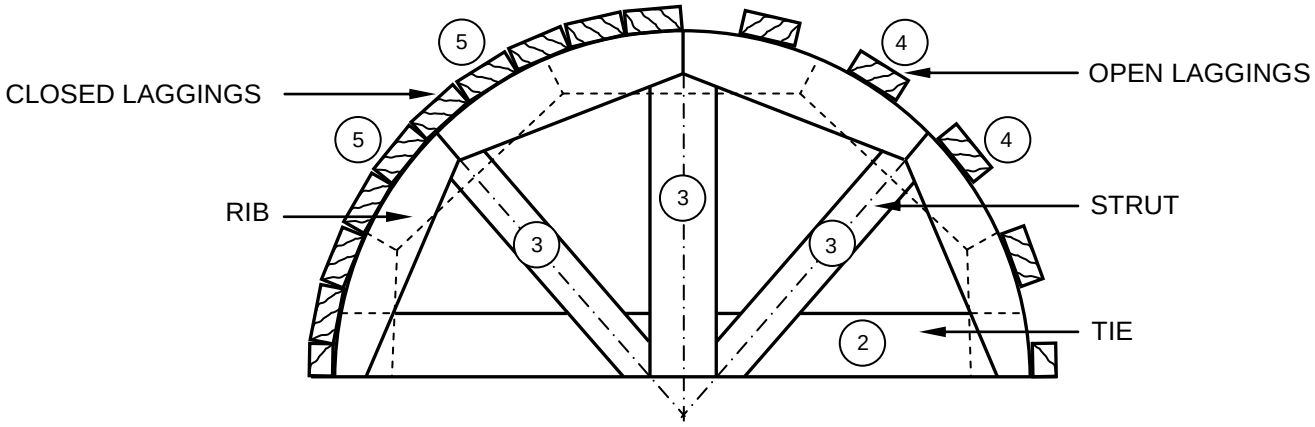


CORRECTNESS OF KING POST ROOF TRUSS: (1) (1)

NO.	ASSESSMENT CRITERIA	MARK
1	Correctness of king post roof truss	2
2	Rafters	2
3	King post	1
4	Tie beam	1
5	Overhang	2
	TOTAL:	**8**

(8)

5.5



CORRECTNESS OF LAGGINGS: (1) (1) (1)

NO	ASSESSMENT CRITERIA	MARK
1	Correctness of laggings	3
2	Tie	1
3	Struts	3
4	Open laggings (Space between laggings)	2
5	Closed laggings (No space between laggings)	2
	TOTAL:	**11**

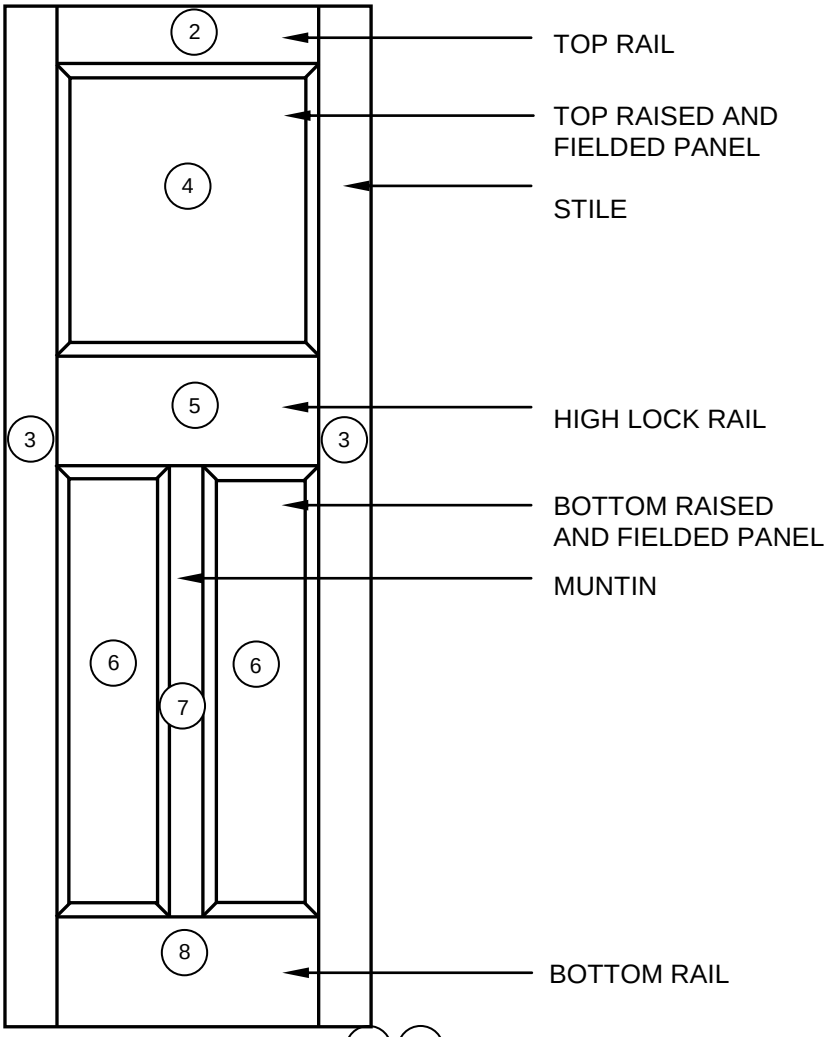
(11)
[30]

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

6.1 6.1.1 Drawer/Till lock ✓ (1)

6.1.2 To lock drawers/tills ✓ (1)

6.2



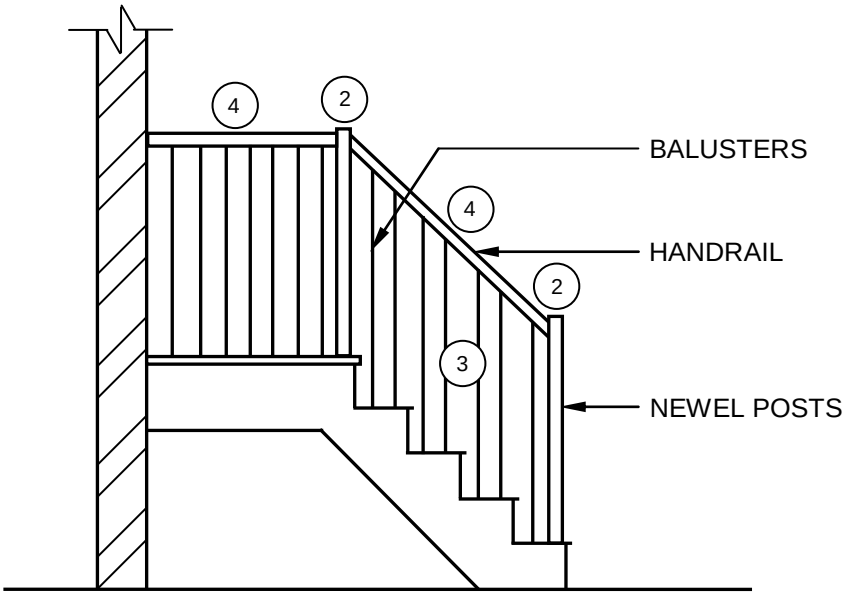
CORRECTNESS OF DOOR: (1) (1) **APPLICATION OF SCALE:** (9) (9)

NO.	ASSESSMENT CRITERIA	MARK
1	Correctness of door	2
2	Top rail	1
3	Stiles	2
4	Top raised and fielded panel	1
5	High lock rail	1
6	Bottom raised and fielded panels	2
7	Muntin	1
8	Bottom rail	1
9	Application of scale: ONE or TWO incorrect = 2 More than THREE incorrect = 1	2
	TOTAL:	**13**

NOT TO SCALE: USE A MASK TO MARK THIS QUESTION

(13)

6.3

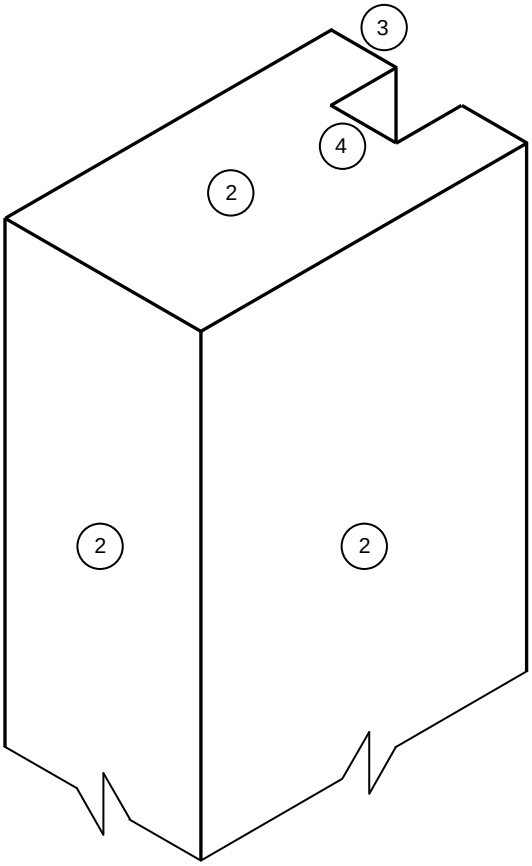


CORRECTNESS OF DRAWING: (1)

NO.	ASSESSMENT CRITERIA	MARK
1	Correctness of drawing	1
2	Newel posts	2
3	Balusters on stairs and landing	1
4	Handrails	2
	TOTAL:	**6**

(6)

6.4

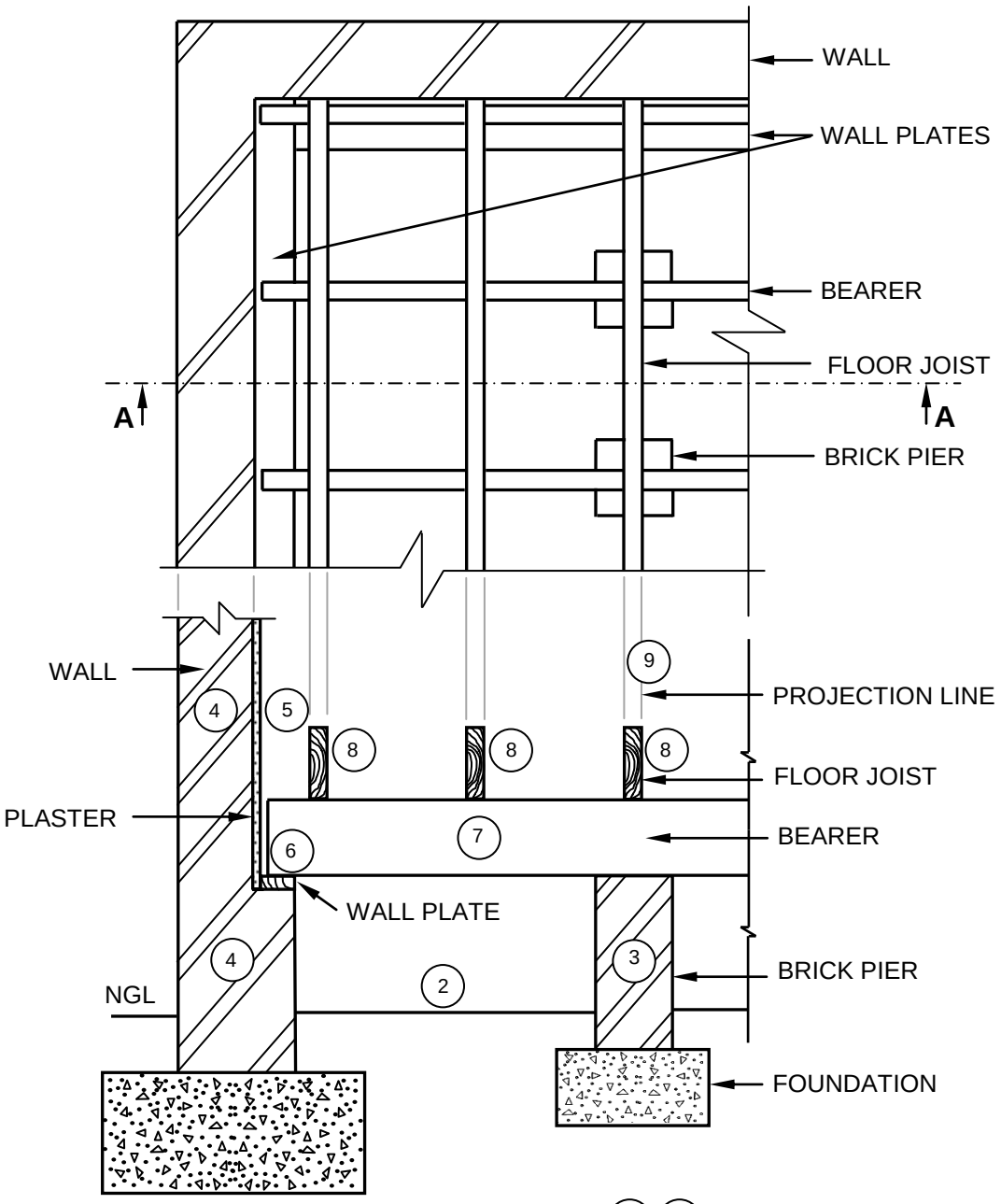


CORRECTNESS OF STILE: (1)

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

(6)

6.5



CORRECTNESS OF SECTIONAL VIEW: (1) (1)

NO	ASSESSMENT CRITERIA	MARK
1	Correctness of sectional view	2
2	Natural ground level	1
3	Brick pier	1
4	Outer wall	2
5	Plaster	1
6	Wall plate	1
7	Bearer	1
8	Joists	3
9	Projection lines	1
	TOTAL:	**13**

(13)

[40]

TOTAL: 200

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