higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

CARPENTRY AND ROOFING THEORY N2

6 AUGUST 2019

This marking guideline consists of 7 pages.

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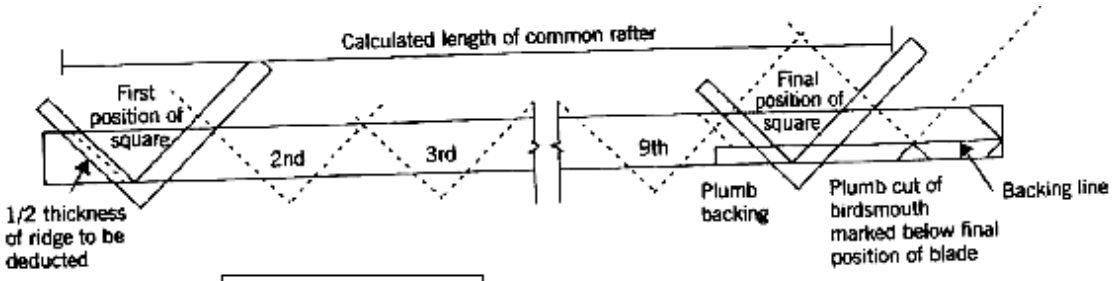
NOTE: Alternative answers not covered by this marking guideline can be considered as correct.

QUESTION 1: SETTING OUT OF BUILDINGS

- Locate the boundary pegs, normally 12 mm steel rods printed red at the top of the rod.
- Clear the site of all debris, bushes, et cetera and level the site.
- Measure from each end of the front boundary line the required distances as specified on the plan, to obtain the boundary line and the front line of the building to be erected.
- Set up the profile boards 300 mm high and 1 m away from the builder's line.
- Use the builder's square or the 3:4:5 triangle method to set all the corners of the building square.
- Mark off the positions of the foundations and the walls on the profiles and knock in nails to mark these positions.
- Tie the builder's line around the nails on the profile boards, spanned from one end to the next end to obtain the position for the trenches.
- Plumb the lines down with a spirit level that represents the foundation width down to the ground.
- Mark the trench lines on the ground with building lime.
- Excavate the trenches to the depth as specified on the plan. **[10]**

QUESTION 2: ROOF CONSTRUCTION

2.1



Sketch =	2
Correctness =	2
Construction =	3
Max for labels =	5
Total =	12

(12)

2.2 2.2.1 Outer skin of external wall extended against the underside of roof covering preventing birds et cetera from entering the roof

2.2.2 Also called back bevel. Angle of intersection between two sloping roofs

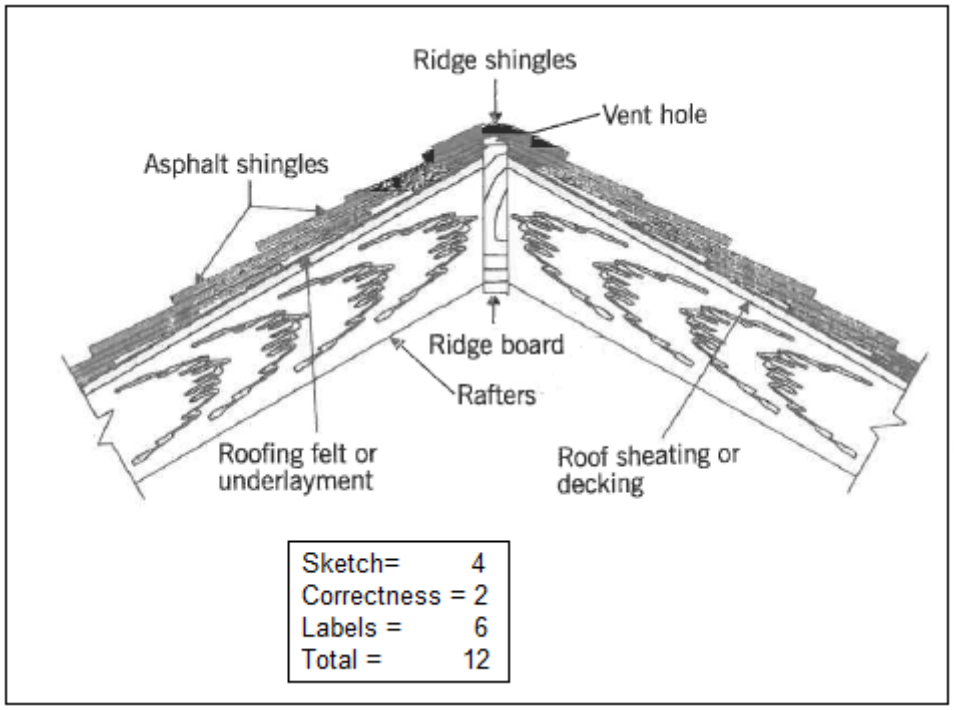
2.2.3 Distance along tie beam between two bottom ends of the trusses or rafters (heels)

2.2.4 Formed where two sloping roofs of an L-shaped pitched roof meet at the internal corner

(4 × 2) (8)
[20]

QUESTION 3: ROOF COVERING

3.1



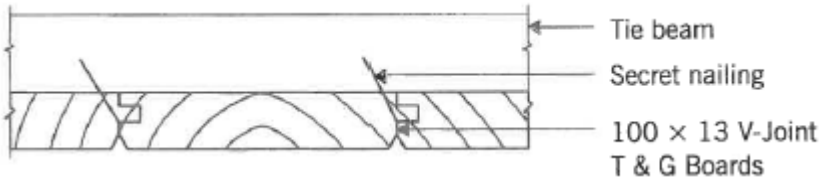
Sketch=	4
Correctness =	2
Labels =	6
Total =	12

(12)

3.2
- Light
- Hail resistant
- Rustproof
- Can be decorative if laid correctly
- Good heat insulator

(Any 3 × 1) (3)
[15]

QUESTION 4: CEILINGS

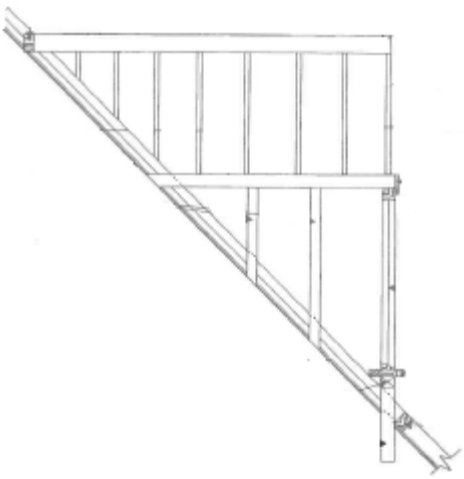


Sketch =	3
Correctness =	2
Labels =	3
Total =	8

[8]

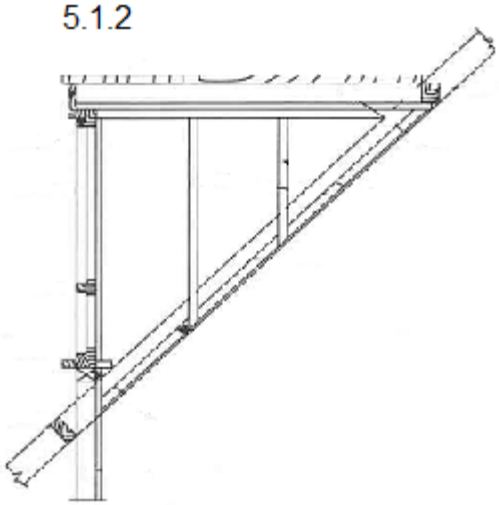
QUESTION 5: DORMER ROOF CONSTRUCTION

5.1 5.1.1



Dormer with a pitched roof

5.1.2



Dormer with a flat roof

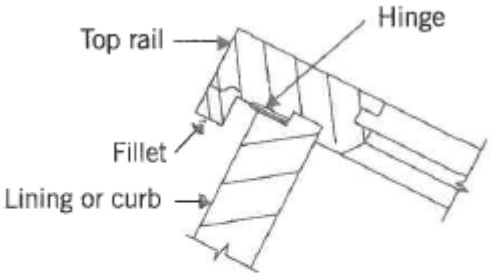
(2 × 7) (14)

5.2 Dormer with segmental roof (1)

[15]

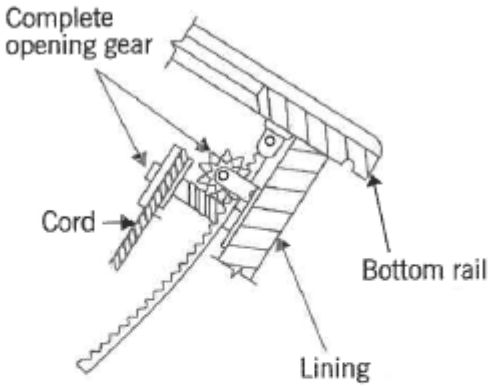
QUESTION 6: ROOF LIGHT CONSTRUCTION

6.1



Sketch =	2
Correctness =	1
Max for labels =	3
Total =	6

6.2



Sketch =	2
correctness =	1
Max for labels =	3
Total =	6

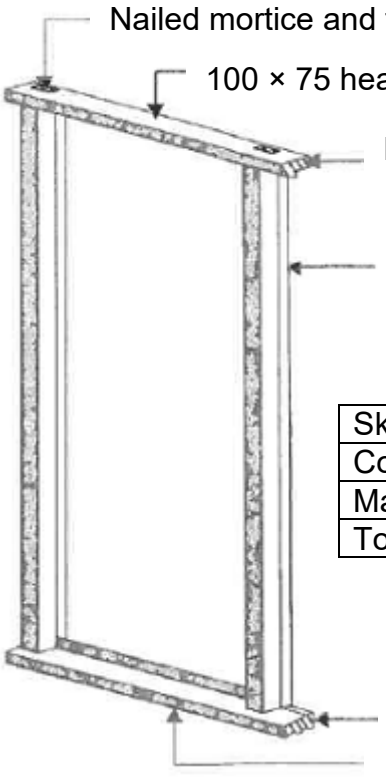
(2 × 6) **[12]**

QUESTION 7: (CARPENTRY CANDIDATES ONLY)

7.1
7.1.1 Top rail
7.1.2 Stile
7.1.3 Glass panels
7.1.4 Glazing bars
7.1.5 Lock rail
7.1.6 Diminished or gunstock stile
7.1.7 Raised and fielded wooden panels
7.1.8 Bottom rail

(8 × 1) (8)

7.2



Sketch	=	2
Correctness	=	1
Max for labels	=	3
Total	=	6

(6)

7.3 Formwork for an octagonal column (1)

7.3.1 Yoke
7.3.2 Bolts to tighten yokes
7.3.3 22 mm thick sheeting
7.3.4 Soldiers
7.3.5 Corner fillet

(5 × 1) (5)
[20]

QUESTION 8: (ROOFING CANDIDATES ONLY)

8.1
- Copper: Reddish-brown nonferrous metal. Soft but tough, can be easily bent and shaped. Ductile, highly malleable, rust free
- Lead: Bluish-grey nonferrous metal. Soft but heavy. High resistance to rust, corrosion and chemical attacks such as water and acids. Malleable and flexible
- Aluminium: Silvery bluish-white nonferrous metal. Rust proof, highly resistant to corrosion. Low tensile strength and melting point
- Zinc: Silvery bluish-white nonferrous metal with a distinct grain due to rolling. Varies from soft to hard, brittle, low melting point. Provides excellent protection against corrosion (4 × 2) (8)

8.2
8.2.1 Receives rainwater from the roof

8.2.2 Takes rainwater from gutter to downpipe

8.2.3 Installed where there is an overhang

8.2.4 Supports and holds downpipe in position

8.2.5 Directs rainwater into a channel on the ground

(5 × 1) (5)

8.3 Process to protect external structures against elements, for example rain, radiation of sun, by applying varnish for external use to wood or NS4, NST, red oxide, to metal. (3)

8.4
8.4.1 C
8.4.2 A
8.4.3 D
8.4.4 B

(4 × 1) (4)
[20]

TOTAL: 100

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