higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

APRIL EXAMINATION

CARPENTRY AND ROOFING THEORY N2

26 MARCH 2013

This marking guideline consists of 8 pages.

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QUESTION 1: SETTING OUT OF BUILDINGS

1.1 Spirit level: To check the accurate levelness and plumbness of horizontal and vertical surfaces respectively (2)

1.2 Water level: To determine the levels of two points which cannot be measured on the same height (2)

1.3 Wind-up tape measure: For measuring long lengths (2)

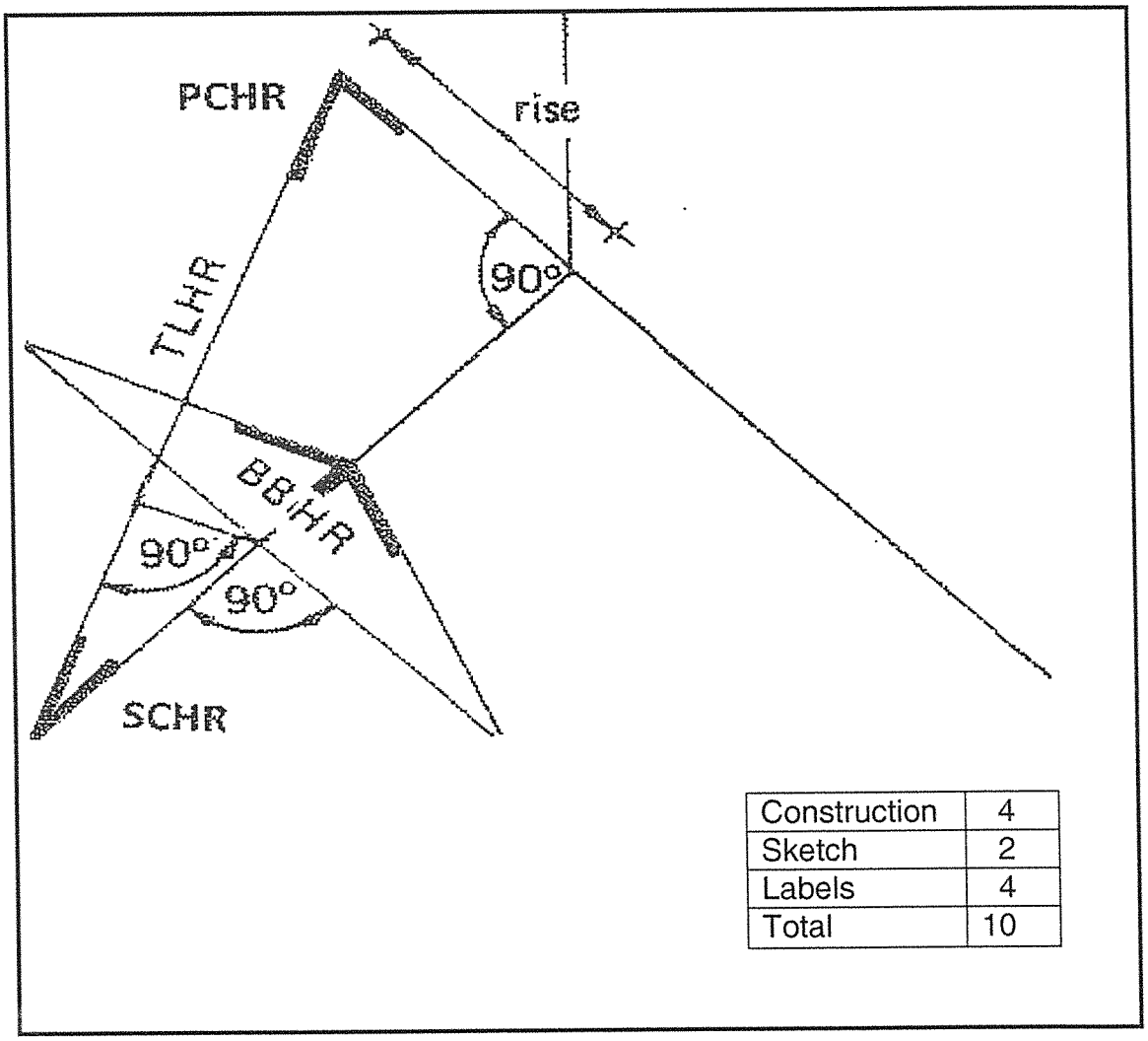
1.4 Plumb bob: To check if structure are vertical level/plumb (2)

1.5 Dumpy level: An instrument used on a tripod to determine whether structures are horizontally and vertically straight (2)

[10]

QUESTION 2: ROOF CONSTRUCTION

2.1



Construction	4
Sketch	2
Labels	4
Total	10

(10)

PITCHED ROOF GEOMETRY

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2.2 2.2.1 The longer (600 mm) and wider (50 mm) member of the square (2)

2.2.2 The shorter (400 mm) and narrower (38 mm) member of the square (2)

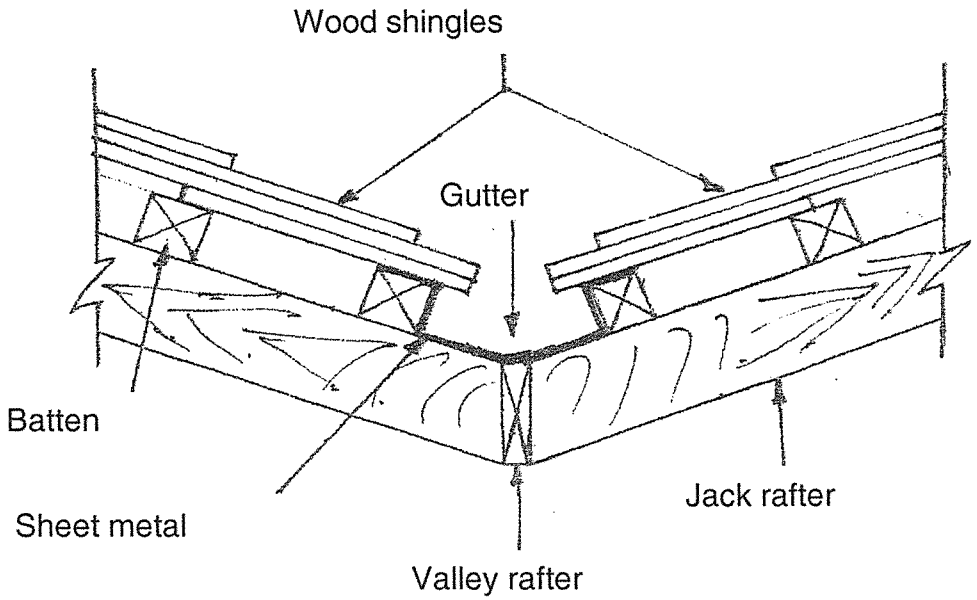
2.2.3 The point on the outside corner where the blade and the tongue meet (2)

2.2.4 Contains all the information regarding the roof members that can be measured. Normally the side that carries the name of the manufacturer (2)

2.2.5 The reverse side of the face. Modern squares have two types of markings, namely scales of graduation and tables with measurements (2)
[20]

QUESTION 3: ROOF COVERINGS

3.1



Sketch	4
Labels	6
Total	10

(10)

VALLEY FINISHING

3.2 3.2.1
- Mastic is an oil-based paste.
- It does not harden to the middle.
- It stays soft, tacky and flexible.
- It is obtainable in tins for brush application and in cartridges for use in a mastic gun. (Any 2 × 1) (2)

3.2.2
- It is designed to protect metal against rust, especially irregular shapes. (1)

3.2.3
- The surface where the mastic will be fixed must be clean and dry.
- All loose particles must be removed.
- Large surfaces can be painted with a brush.
- One thick coat is usually enough. (Any 2 × 1) (2)

[15]

QUESTION 4: CEILINGS

4.1
- To provide insulation against the heat from the roof and the cold from inside
- To prevent dust that penetrates through the roof from settling inside the building
- To give a decorative finish to a room (Any 2 × 1) (2)

4.2 4.2.1
- The ceiling can be adjusted to be level.
- It provides space to hide pipework and wires.
- It serves as a good isolator against heat and cold. (Any 2 × 1) (2)

4.2.2
- It has a good isolation value.
- Fire risk is reduced with the use of fibre cement boards/sheets.
- The size of the sheets makes it convenient to cover big areas at a time. (Any 2 × 1) (2)

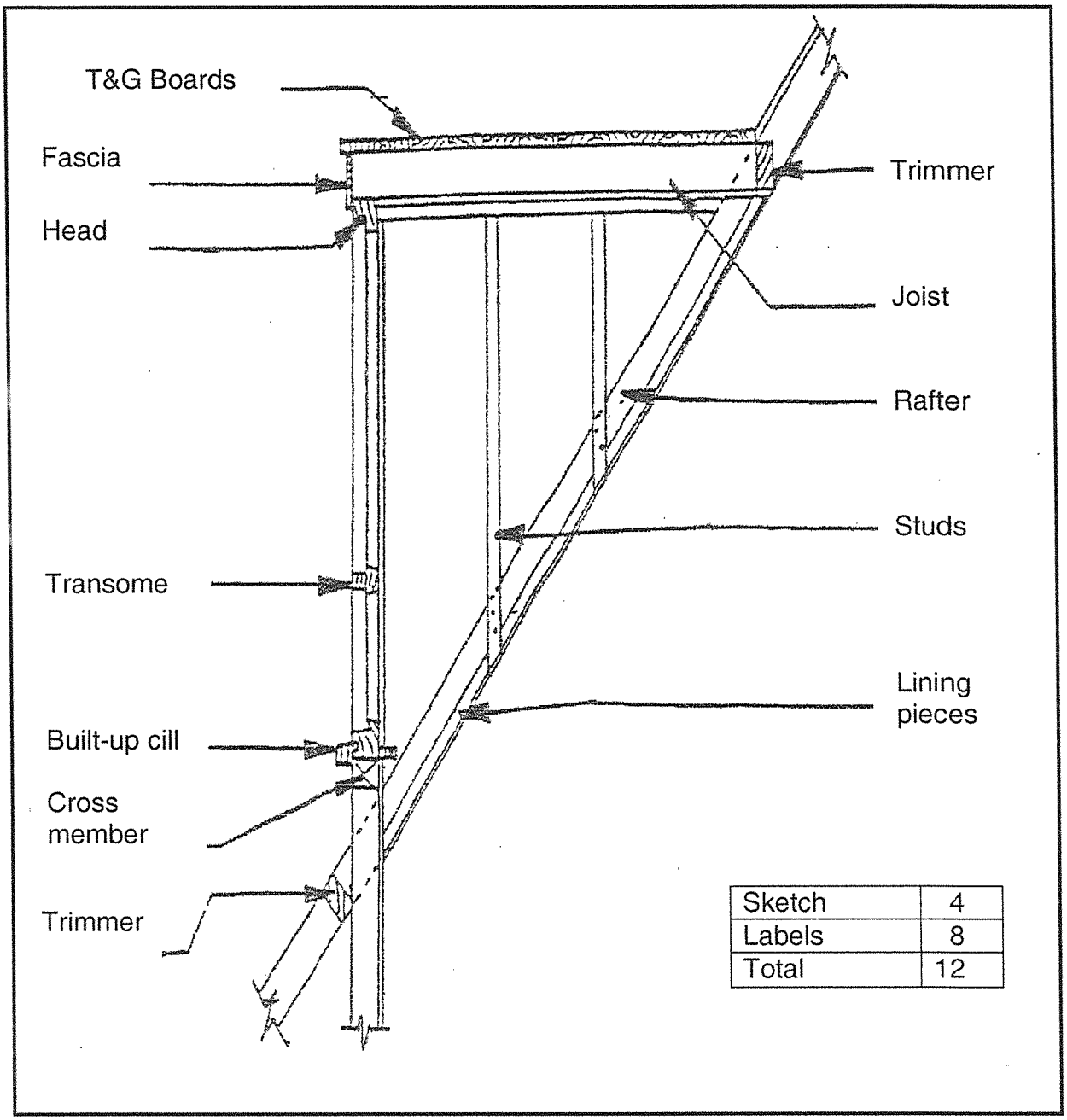
4.2.3
- Timber (tongue and groove planks) can be fixed directly to the tie beam.
- No brandering is required.
- No additional finish such as cretestone is required.
- It is fairly easy to install. (Any 2 × 1) (2)

[8]

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QUESTION 5: DORMER ROOF CONSTRUCTION

5.1



DORMER WINDOW (12)

5.2 Square bay
Splayed bay
Circular bay

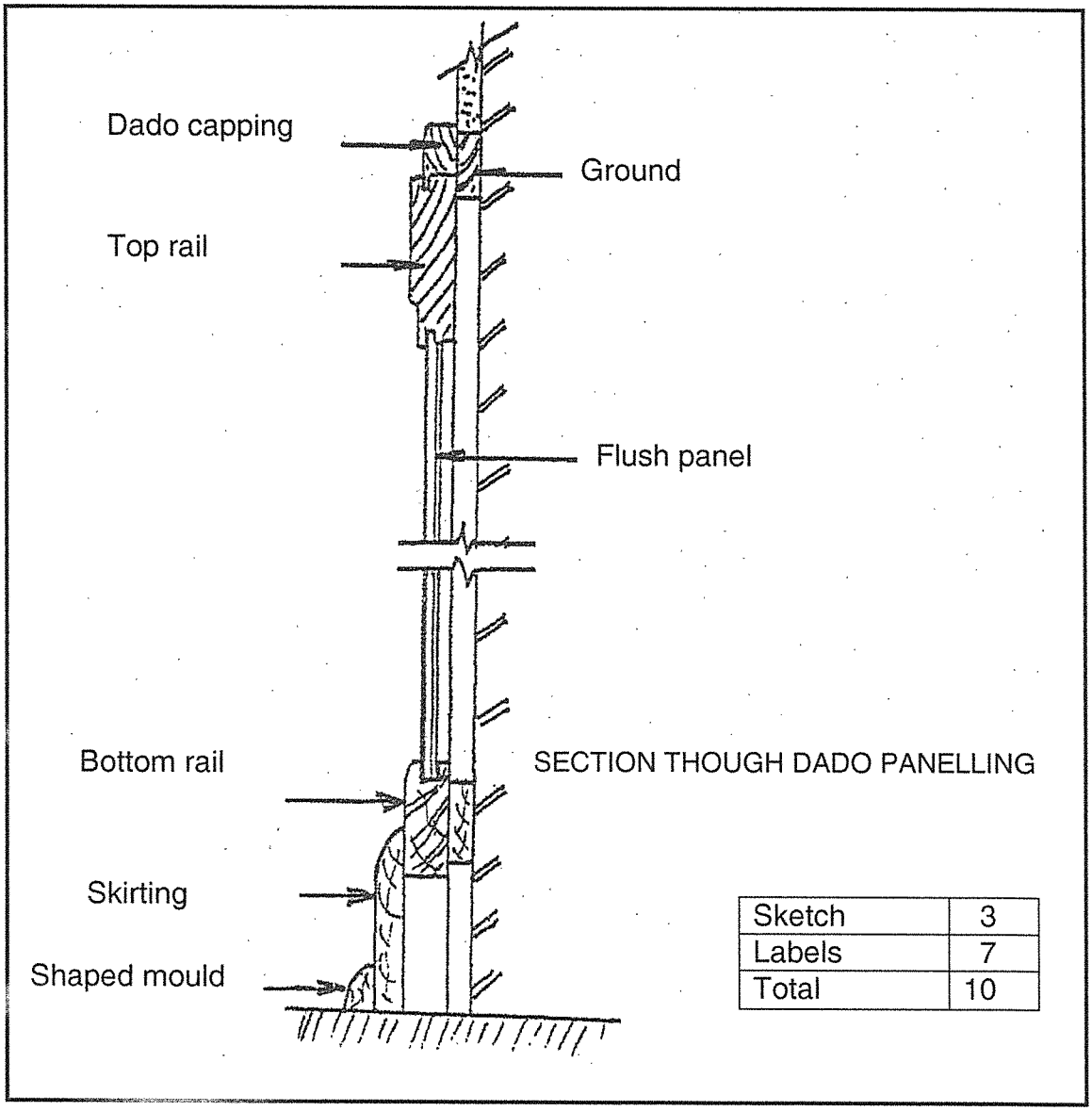
(3 × 1) (3)

[15]

QUESTION 6: ROOF LIGHT CONSTRUCTION

6.1 Top rail
6.2 Bottom rail
6.3 Stile
6.4 Gutter
6.5 Hinge
6.6 Rafter
6.7 Trimmer
6.8 Liners
6.9 Glazing bar
6.10 Flashing
6.11 Rain drip
6.12 Roof tiles (12)

QUESTION 7: THIS QUESTION IS FOR CARPENTRY CANDIDATES ONLY.



Sketch	3
Labels	7
Total	10

(10)

DADO WALL FINISH

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7.2
- Place the door against the frame to mark off the size.
- Measure the size and allow for clearance between the frame and door.
- Plane the door down to the required size.
- Mark the position of the hinges on the door and let in.
- Place door on wedges and mark the position of the hinges on the frame and let in.
- Place the door in position, drill the holes and fix the hinges.
- Mark the position of the lock, let in, fit and fix.

(Any logical description is acceptable) (Any 6 × 1) (6)

7.3.1
- Equipment to support the brickwork in an arch (1)
- Ensures for a smooth finished curve of the arch (1)

7.3.2
- A temporary mould to serve as a system of support into which concrete steel (reinforcement) is cast for a required shape (1)
- Forms a predetermined strength until it has set sufficiently (1)

[20]

QUESTION 8: THIS QUESTION IS FOR ROOFING CANDIDATES ONLY

8.1.1
- Soldering
- Brazing
- Riveting
- Groove joining

(Any 2 × 1) (2)

8.1.2
- Soldering
- Rolling
- Groove joining

(Any 2 × 1) (2)

8.1.3
- Soldering
- Brazing
- Riveting
- Welding
- Groove joining

(Any 2 × 1) (2)

8.1.4
- Riveting
- Rolling
- Groove joining

(Any 2 × 1) (2)

8.1.5
- Welding
- Soldering
- Riveting
- Groove joining

(Any 2 × 1) (2)

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8.2
- The type of roof covering
- The roof area or the flow rate
- The number of outlets
- Determine the height of the down flow
- The standard lengths available
- The serviceability of chosen material, e.g. PVC, fibre, cement, galvanised iron, etc. (Any 5 × 1) (5)

8.3
- Slater's hammer
- Slate ripper
- Parallel sheers
- Bentley slate cutter
- Disc cutter
- Guillotine (Any 5 × 1) (5)

[20]

TOTAL: 100

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