



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

ENGINEERING GRAPHICS AND DESIGN P1

2022

MARKS: 100

These marking guidelines consist of 7 pages.

ANSWERS		
1	884939	1
2	1 : 1300	1
3	PROJECT NUMBER	1
4	MULLER ARCHITECTS	1
5	DIRECTION OF OPENING	1
6	RODDING EYE	1
7	2000	1
8	BUILDING LINE	1
9	SEWERAGE LINE	1
10	MUST BE DEMOLISHED/REMOVED	1
11	BRICK PAVING	1
12	ELECTRICITY METER / WATT METER	1
13	PARKING FOR DISABLED PEOPLE	1
14	18,28	2
15	YELLOW	1
16	18	2
17	SOUTH EAST	2
18	See below	3
19		3
20		4
TOTAL		30

ANSWER 18

Show ALL calculations.

APPLYING CORRECT FORMULA ✓

$$\begin{aligned}
 P &= AB + BC + CD + DE + EF + FG + GA \\
 &= 117,7 + 13,7 + 115,1 + 8,3 + 88,3 + 39,7 + 102,8 \\
 &= 485,6 \text{ m}
 \end{aligned}$$

ANSWER IN METRES ✓

ANSWER 19

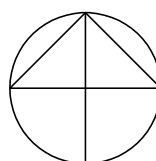
Show ALL calculations.

APPLYING CORRECT FORMULA ✓

$$\begin{aligned}
 A &= (15,4 \times 24,5) + (39,1 \times 48,0) \\
 &\quad + (6,0 \times 27,9) \\
 &= 377,3 + 1876,8 + 167,4 \\
 &= 2421,5 \text{ m}^2
 \end{aligned}$$

ANSWER 20

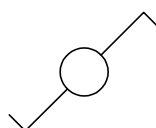
20.1



20.1 NORTH POINT

CIRCLE 0.5
 VERTICAL LINE 0.5
 HORIZONTAL LINE 0.5
 ANGLED LINES 0.5

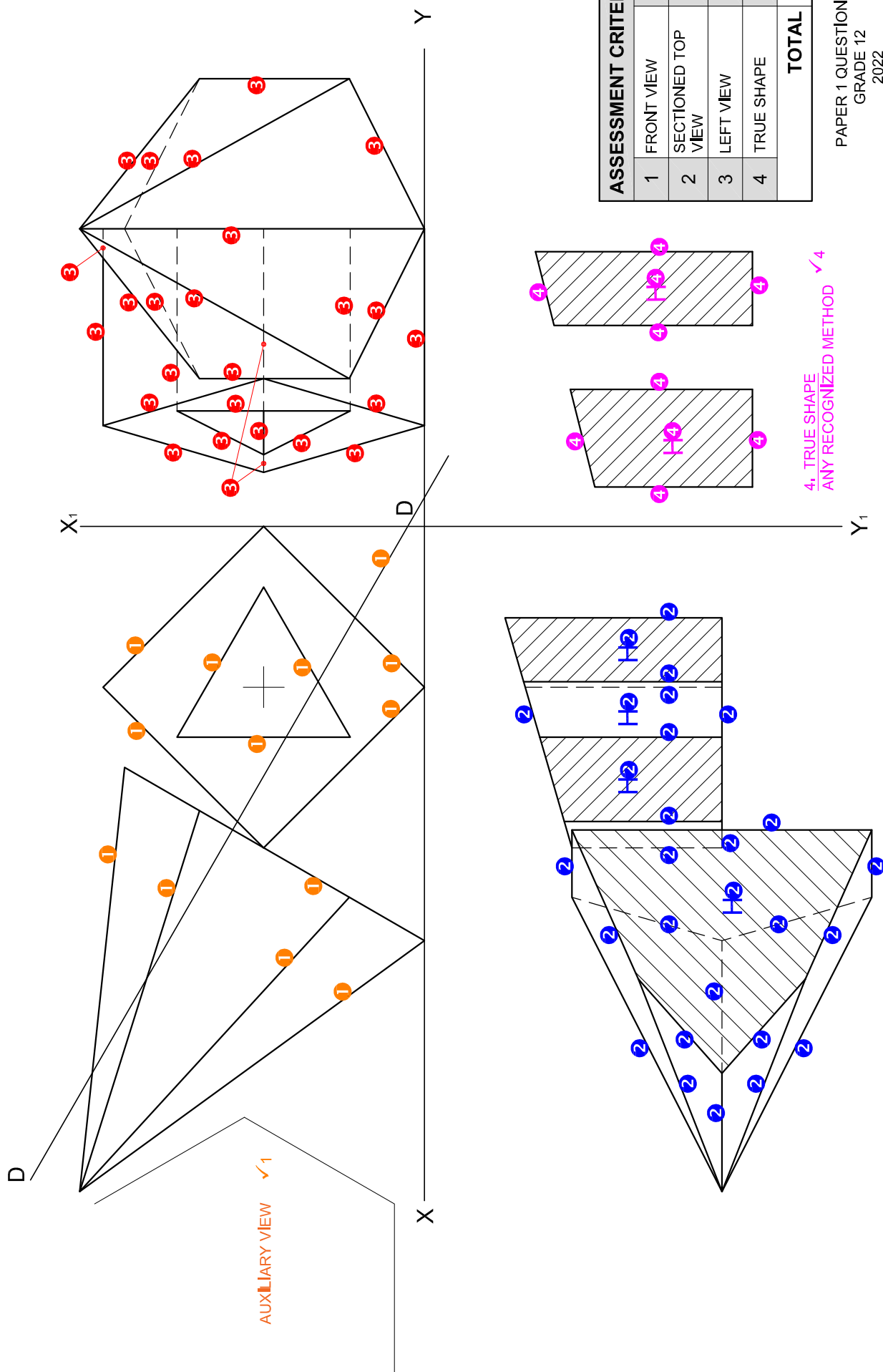
20.2



20.2 TWO-WAY SWITCH

CIRCLE 0.5
 SWITCH ON ONE SIDE 0.5
 SWITCH ON OTHER SIDE 0.5

20.1 + 20.2 IN FREEHAND 0.5



ASSESSMENT CRITERIA	
1	FRONT VIEW
2	SECTIONED TOP VIEW
3	LEFT VIEW
4	TRUE SHAPE
TOTAL	

7 1/2

14

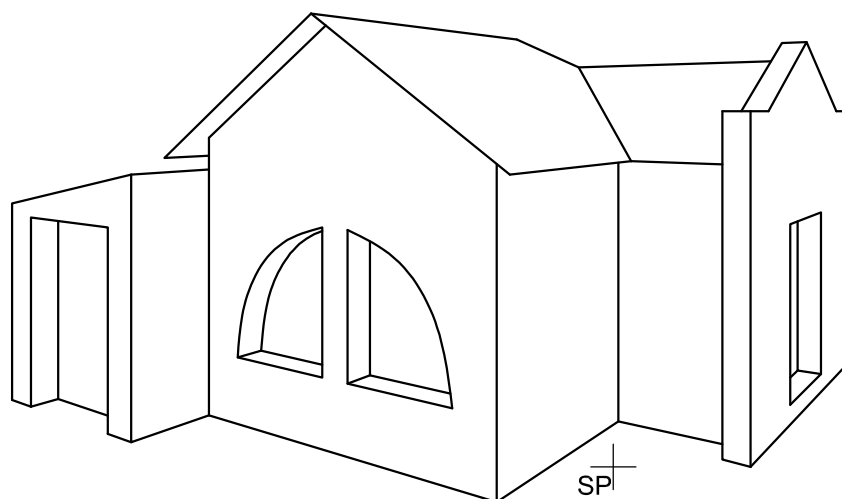
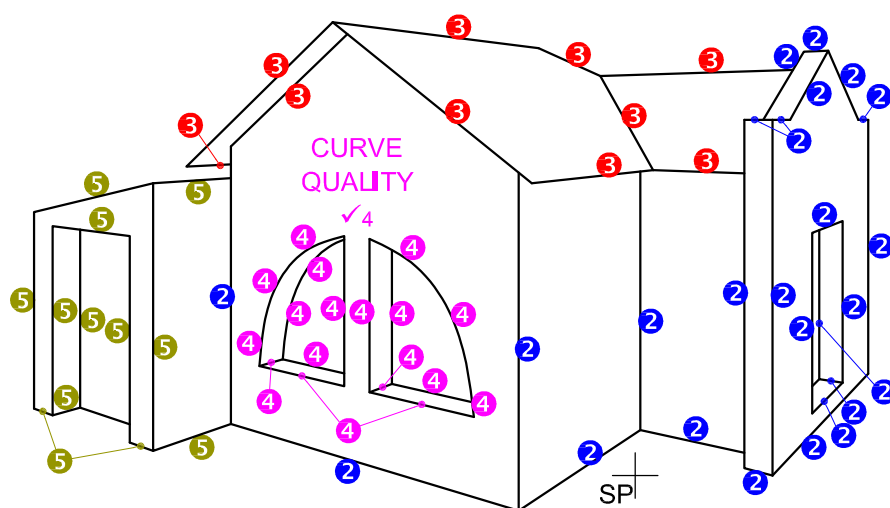
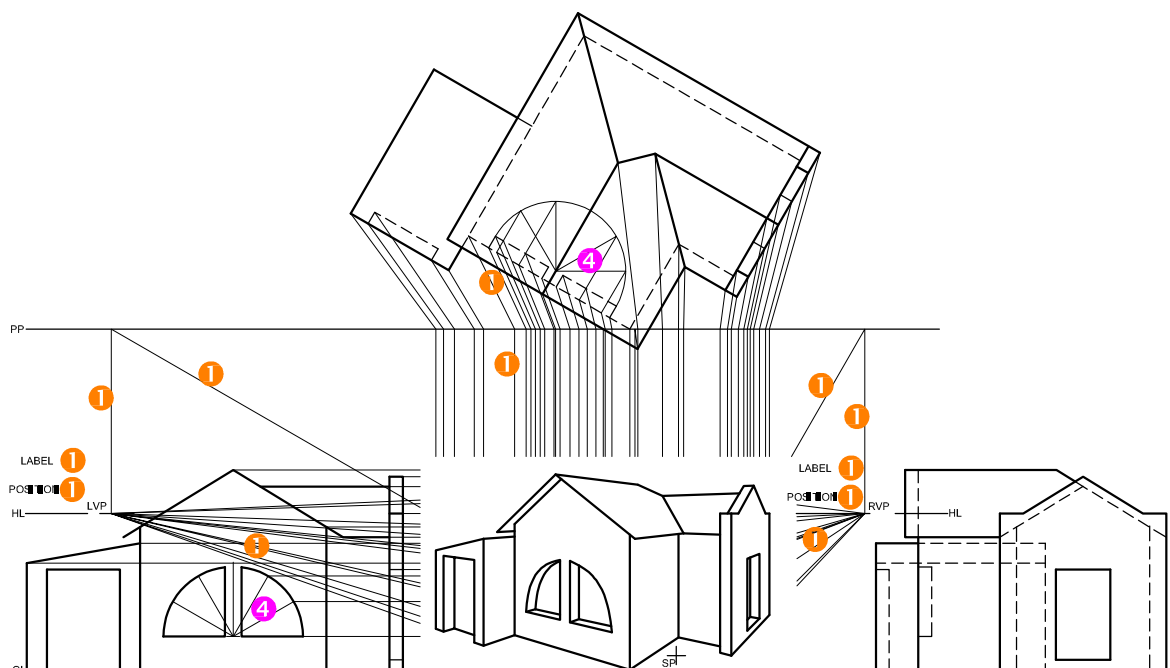
12 1/2

6

40

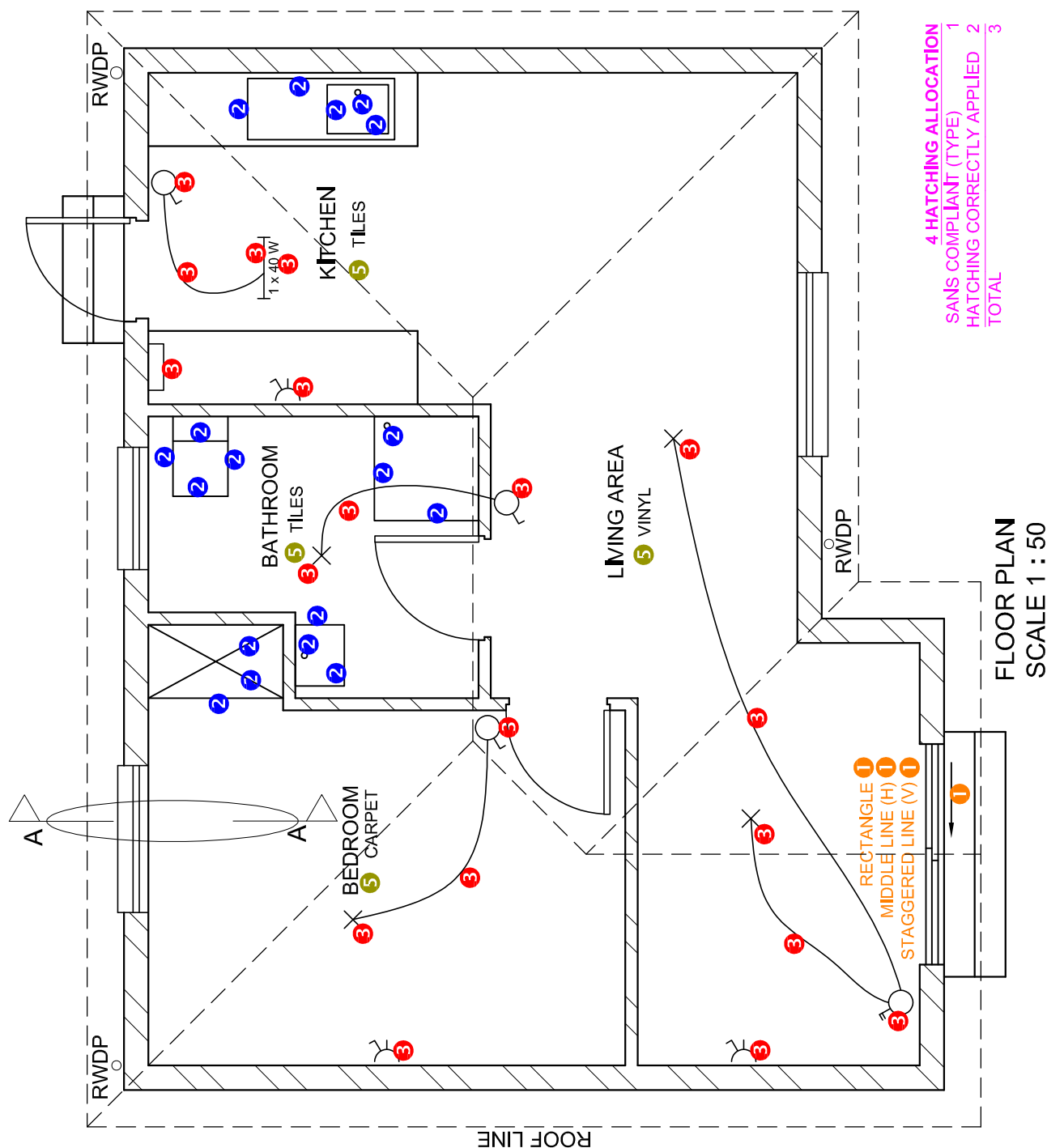
PAPER 1 QUESTION 2
GRADE 12
2022

MARKING GUIDELINES



ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALLS	11 $\frac{1}{2}$
3	ROOF	5
4	WINDOWS	10
5	GARAGE	5 $\frac{1}{2}$
TOTAL		38

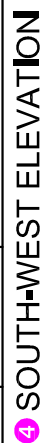
PAPER 1 QUESTION 3
 GRADE 12
 2022
 MARKING GUIDELINES



ASSESSMENT CRITERIA		FLOOR PLAN	
		POSSIBLE	
1	DOORS + WINDOWS	11	
2	FIXTURES	9	
3	ELECTRICAL	9 $\frac{1}{2}$	
4	HATCHING	3	
5	LABELS	2	
SUBTOTAL		34 $\frac{1}{2}$	

PAPER 1 QUESTION 4
GRADE 12
2022

MARKING GUIDELINES

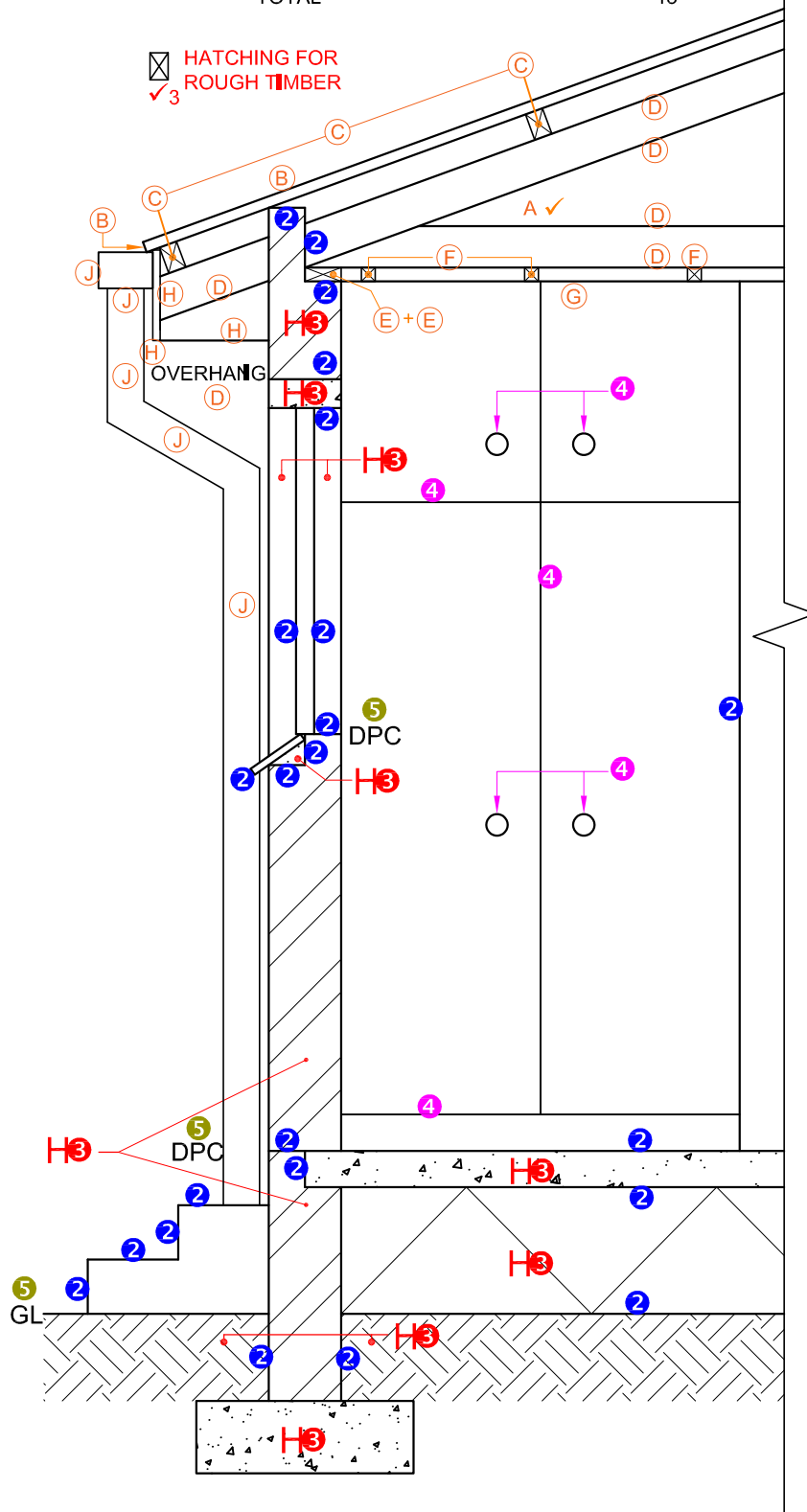


ASSESSMENT CRITERIA		
SOUTH-WEST ELEVATION		
1	ROOF + RWDP	9 $\frac{1}{2}$
2	WALLS + STEP + FFL	4 $\frac{1}{2}$
3	DOOR + WINDOW	8 $\frac{1}{2}$
4	LABELS	1
SUBTOTAL		23 $\frac{1}{2}$

PAPER 1 QUESTION 4
GRADE 12
2022
MARKING GUIDELINES

1. MARK ALLOCATION FOR ROOF

A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN + SPACING	1.5
D: TRUSS + OVERHANG	3
E: WALL PLATE	1
F: BRANDING + SPACING	1
G: CEILING BOARD	0.5
H: FACIA	1.5
J: GUTTER + RWDP	2.5
TOTAL	13

**ASSESSMENT
CRITERIA****DETAILED SECTION**

1	ROOF DETAIL	13
2	SLAB + WALL + WINDOW + STEP	11 $\frac{1}{2}$
3	HATCHING	5 $\frac{1}{2}$
4	B/C	2 $\frac{1}{2}$
5	LABELS	1 $\frac{1}{2}$
SUBTOTAL		34

PAPER 1 QUESTION 4
GRADE 12
2022
MARKING GUIDELINES