



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

ENGINEERING GRAPHICS AND DESIGN P1

NOVEMBER 2016

MEMORANDUM

MARKS: 100

This memorandum consists of 7 pages.

ANSWERS		
1	2	1
2	WILLIAM / "ON THE DOT ARCHITECTS"	1
3	1 : 800	1
4	VERNON	1
5	NAT PRINTERS	1
6	0 / NONE / NOT APPLICABLE	1
7	2015-05-06	1
8	2 / 3	1
9	INSPECTION CHAMBER	1
10	BLACK	1
11	CONTOUR LINE	1
12	MILLIMETRE / mm / METRIC	1
13	COMPACTED HARD CORE	1
14	ELECTRIC SECURITY FENCE	2
15	GATE OPENING DIRECTION	1
16	SERVITUDE	2
17	STOREROOM OVER BUILDING LINE	2
18	369,14 m [calculations 1, answer 1, metres 1]	3
19	2184 m ² [calculations 2, answer 1, metres ² 1]	4
20		3
TOTAL		30

ANSWER 18

Show ALL calculations.

$$\begin{aligned}
 L &= 2(L + B) \\
 &= (2 \times 74569) + (2 \times 116000) \quad \checkmark 1 \\
 &= 149,138 + 232,000 \\
 &= 381,138 \\
 &= 381,138 - \text{GATE} \\
 &= 381,138 - 12,000 \\
 &= 369,138 \text{ of } 369,14 \quad \checkmark 1 \quad \checkmark 1
 \end{aligned}$$

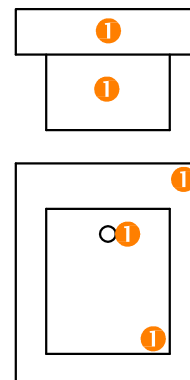
ANSWER 19

Show ALL calculations.

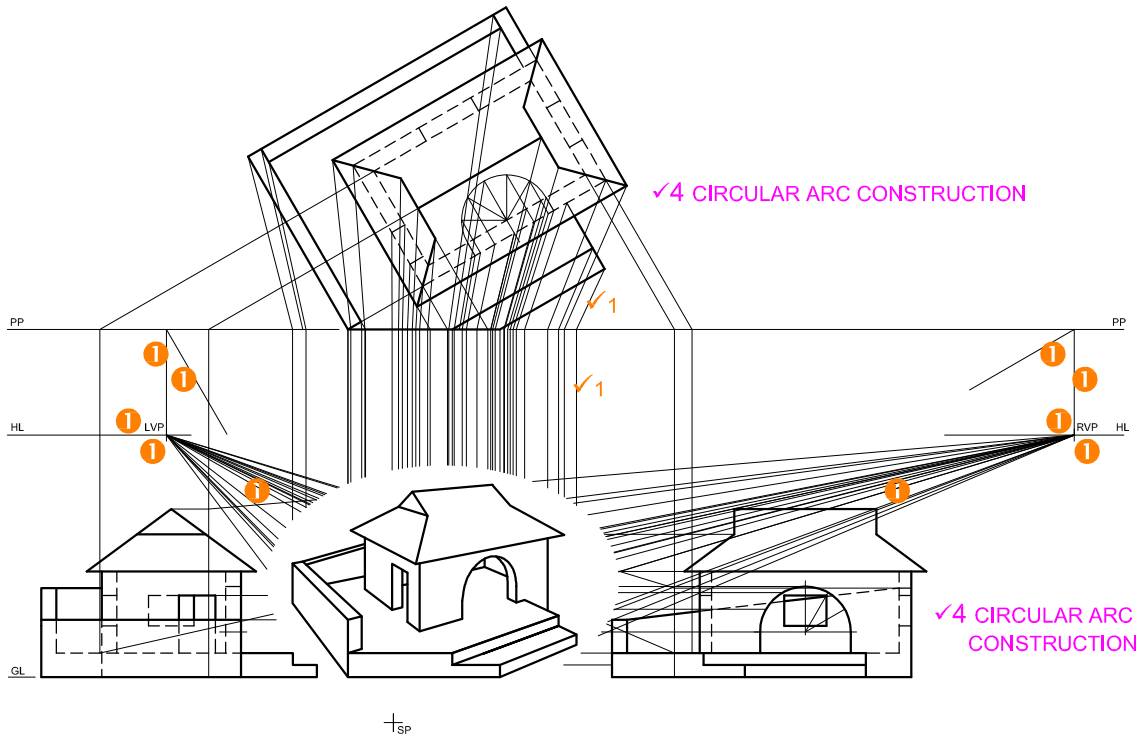
$$\begin{aligned}
 B A &= 9[(12,4 \times 20) - (4 \times 4)] + (12 \times 8) \quad \checkmark 1 \quad \checkmark 1 \\
 &= 9(248 - 16) + 96 \\
 &= 2088 + 96 \\
 &= 2184 \text{ m}^2 \quad \checkmark 1 \quad \checkmark 1
 \end{aligned}$$

ANSWER 20

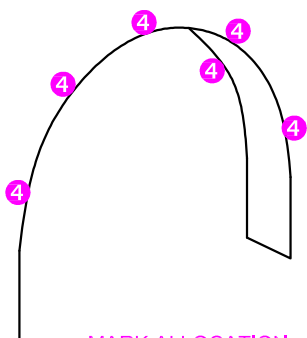
FREEHAND ①



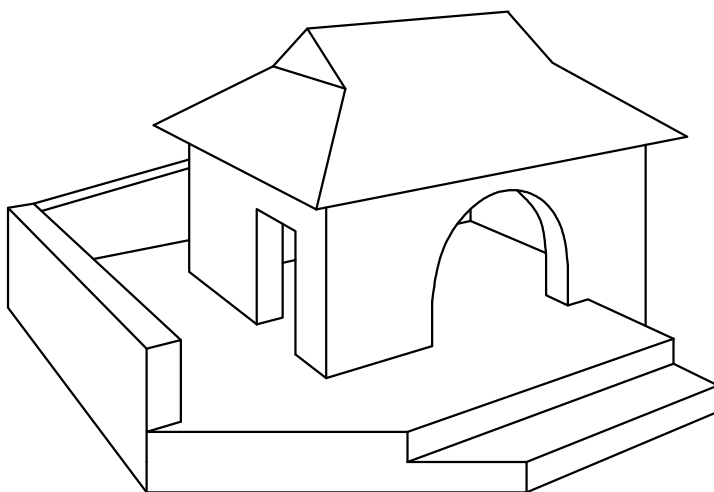
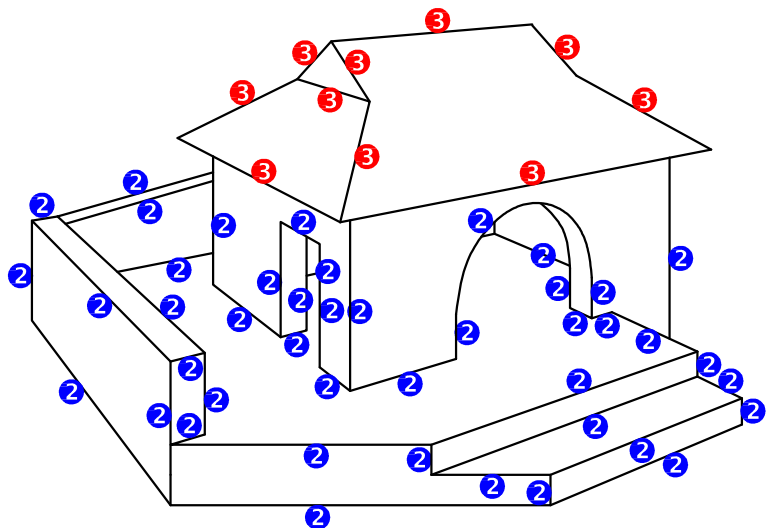
PAPER 1 QUESTION 1
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✓4 CURVE QUALITY



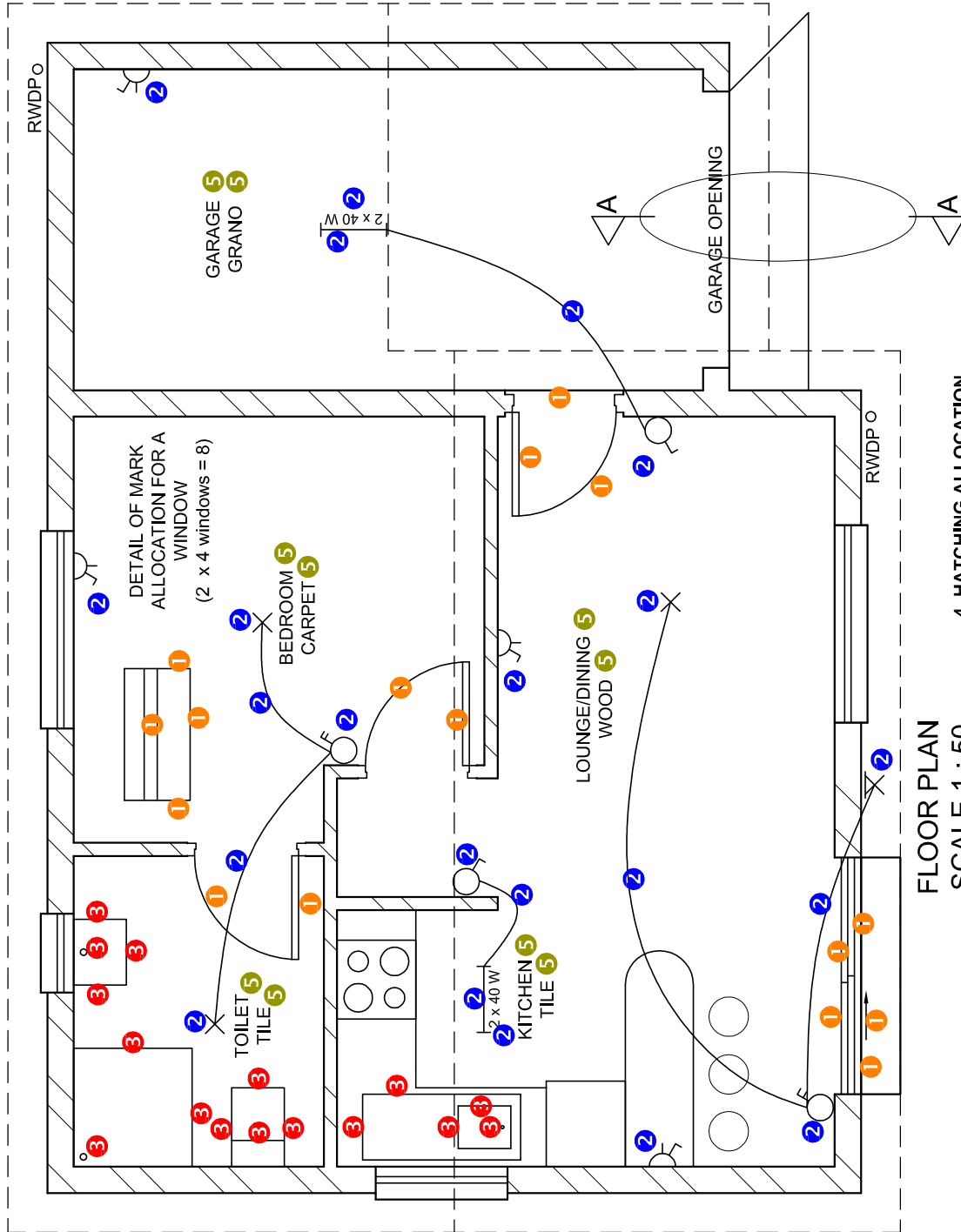
MARK ALLOCATION FOR THE CIRCULAR ARC



SP

PAPER 1 QUESTION 3
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ASSESSMENT CRITERIA		
1	CONSTRUCTION + VPs	7
2	WALLS + DOORS	22
3	ROOF	5
4	CIRCULAR ARC	6
TOTAL		40

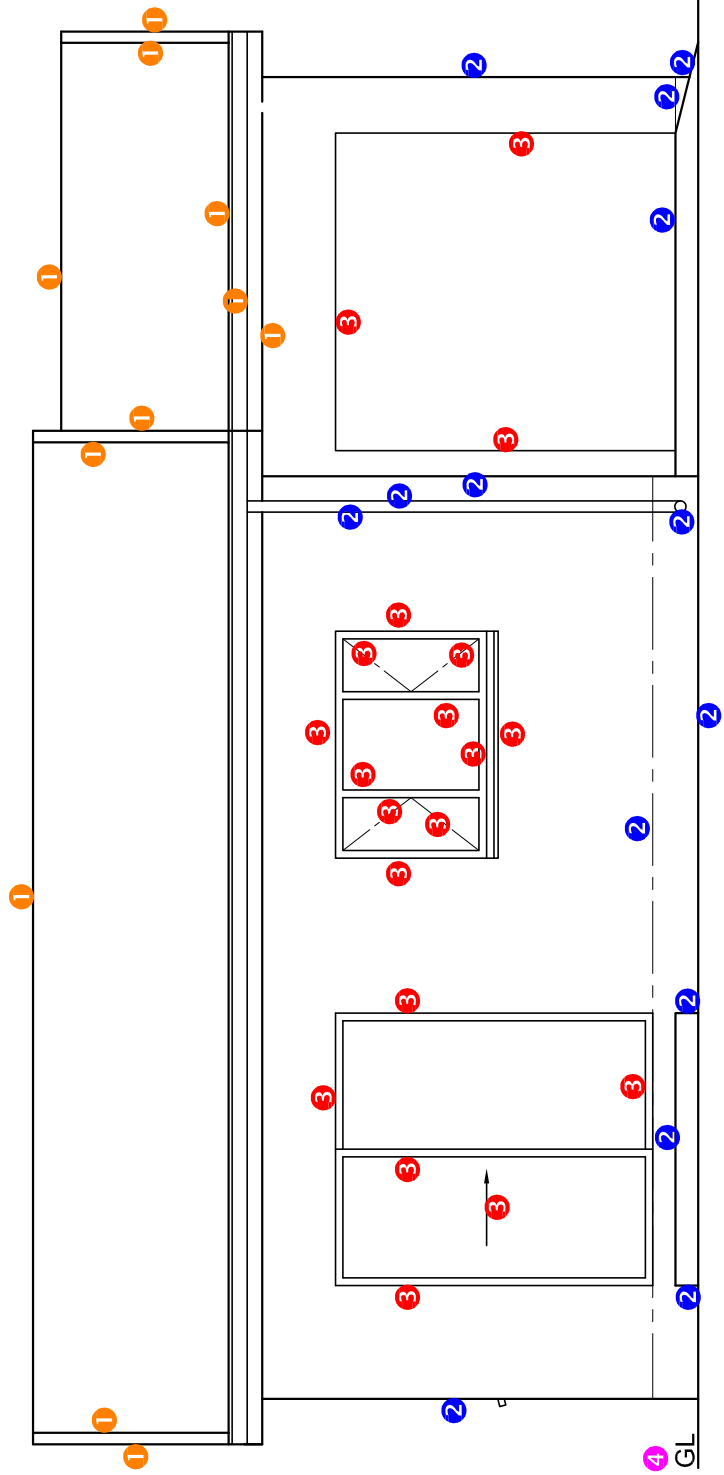


FLOOR PLAN
SCALE 1 : 50

4. HATCHING ALLOCATION
SANS COMPLIANT (TYPE) 2
HATCHING CORRECTLY APPLIED 2
TOTAL 4

PAPER 1 QUESTION 4.1.1
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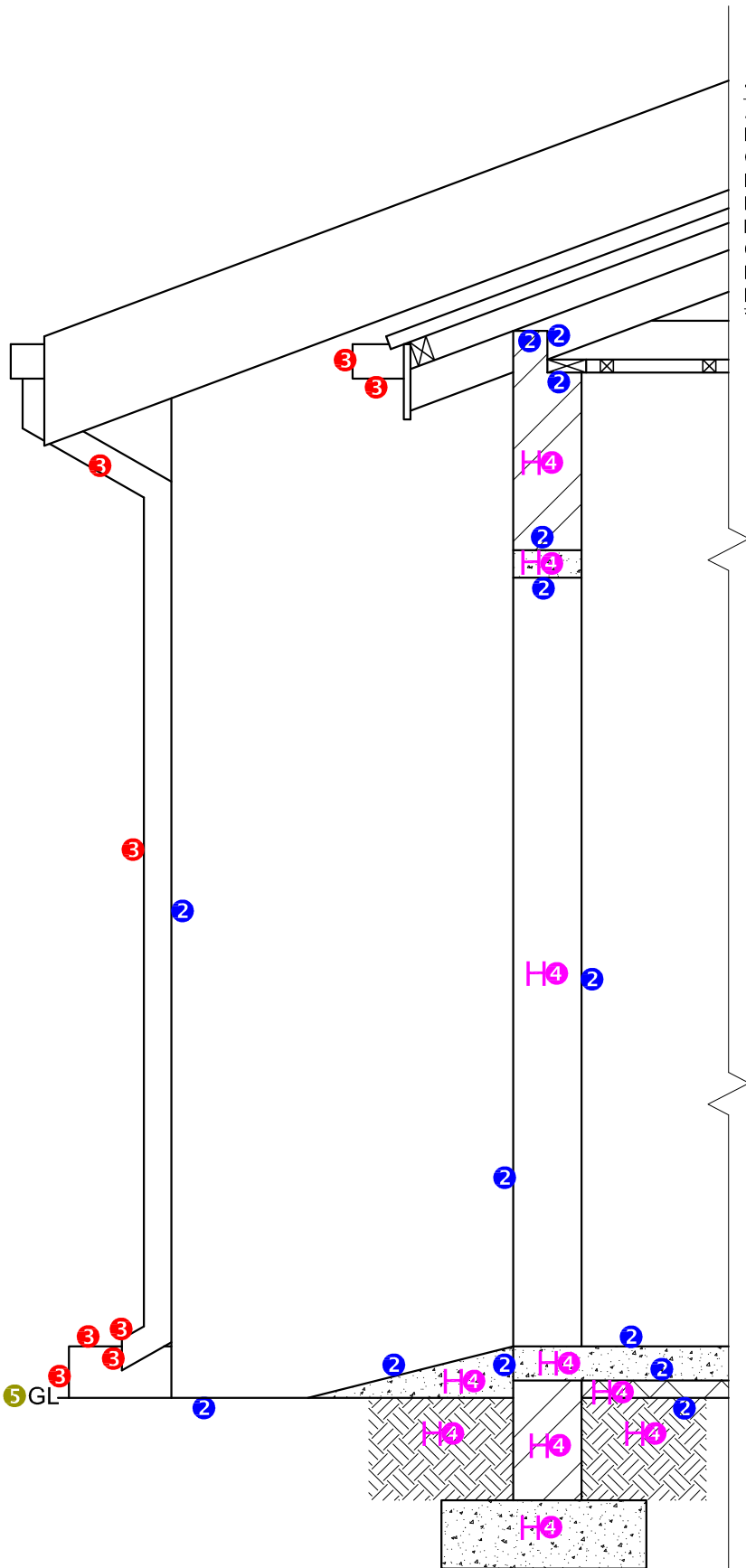
ASSESSMENT CRITERIA		FLOOR PLAN	
1	DOORS + WINDOWS	14	
2	ELECTRICAL	11	
3	FIXTURES	8	
4	HATCHING	4	
5	LABELS	5	
SUBTOTAL		42	



SOUTH ELEVATION 4

ASSESSMENT CRITERIA		
SOUTH ELEVATION		
1	ROOF	5 ½
2	WALLS + RWDP + FFL	7
3	DOOR + WINDOW	10
4	LABELS	1
SUBTOTAL		23 ½

PAPER 1 QUESTION 4.1.2
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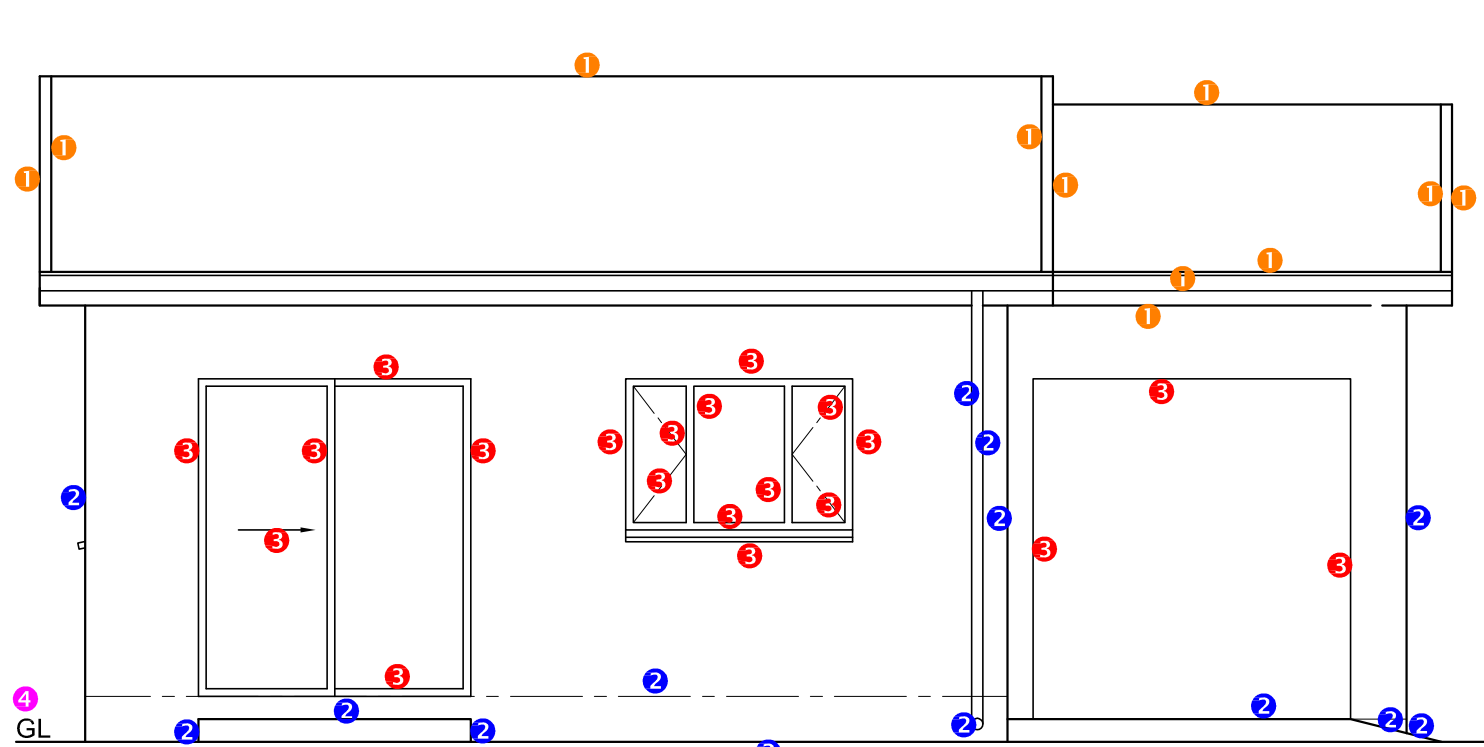
1. MARK ALLOCATION FOR SECTION OF ROOF

A. ROOF ANGLE	1
B. ROOF SHEET	1
C. PURLIN	1
D. TRUSS	2
E. FASCIA BOARD	1
F. WALL PLATE	1
G. BRANDING + SPACING	1
H. CEILING BOARD	1
I. BARGE BOARD	2
TOTAL	11

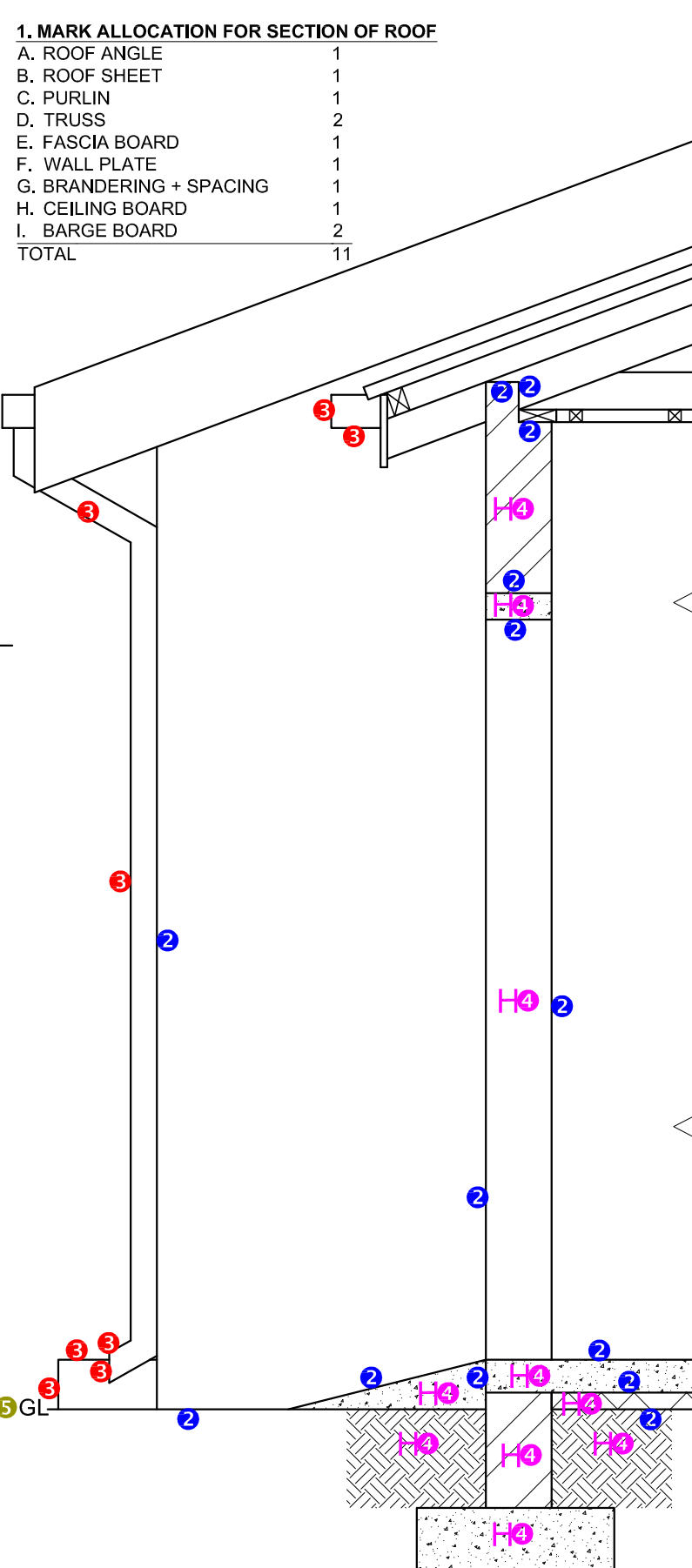
SECTION A-A
SCALE 1 : 20

PAPER 1 QUESTION 4.2
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ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF	11
2	WALLS + SLAB	7
3	GUTTER + RWDP	4
4	HATCHING	5
5	LABELS	1/2
SUBTOTAL		27 1/2



SOUTH ELEVATION 4



SECTION A-A
SCALE 1 : 20

PAPER 1 QUESTION 4
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1. MARK ALLOCATION FOR SECTION OF ROOF

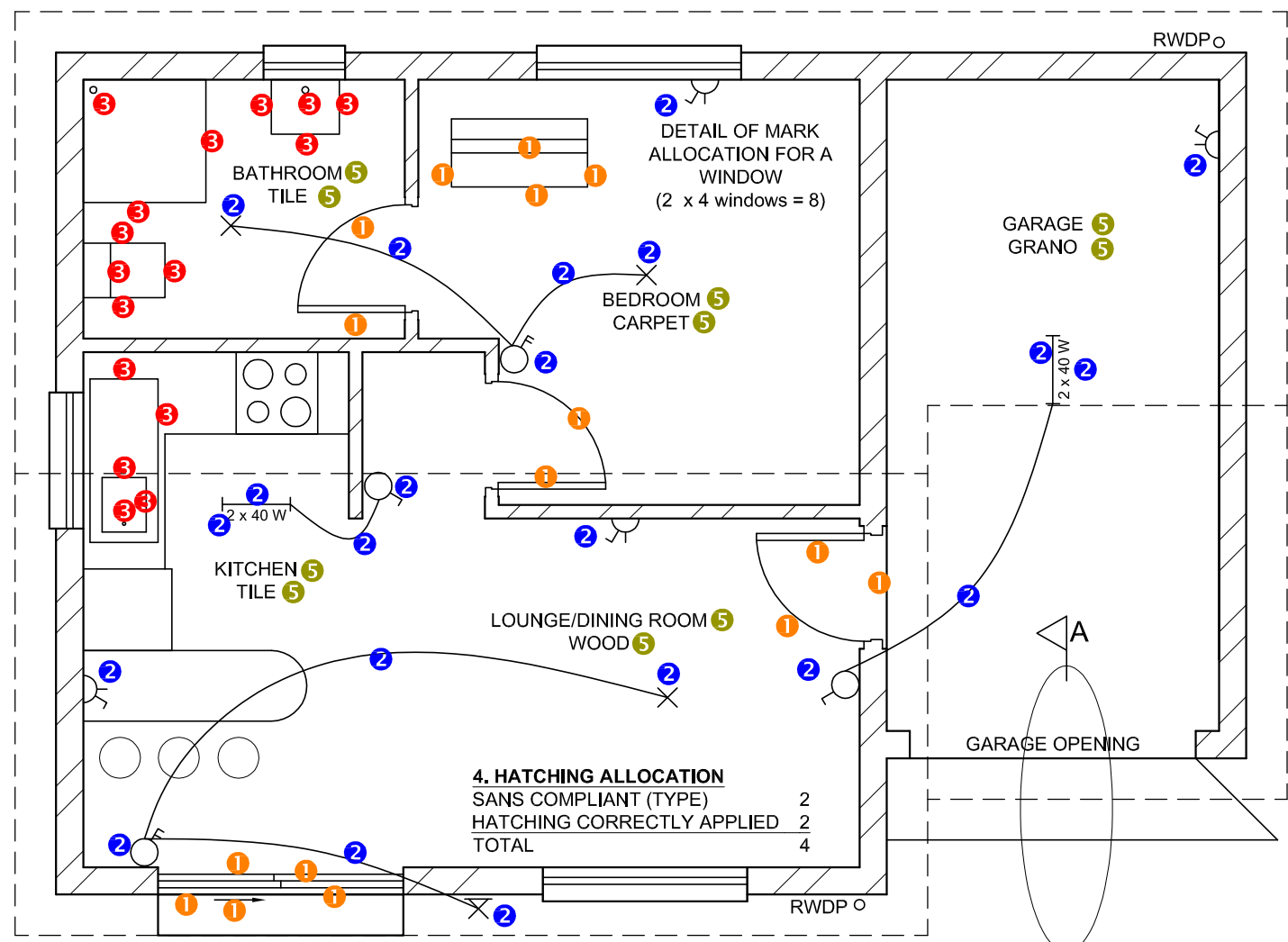
A. ROOF ANGLE	1
B. ROOF SHEET	1
C. PURLIN	1
D. TRUSS	2
E. FASCIA BOARD	1
F. WALL PLATE	1
G. BRANDING + SPACING	1
H. CEILING BOARD	1
I. BARGE BOARD	2
TOTAL	11

1. MARK ALLOCATION FOR SECTION OF ROOF

A (1)	
B (1)	
C (1)	
D (2)	
E (1)	
F (1)	
G (1)	
H (1)	
I (2)	
TOTAL	

FOR OFFICIAL USE ONLY

INCORRECT SCALE	
INCORRECT POSITIONING OF VIEWS	
NON-ALIGNMENT OF VIEWS	
TOTAL	



FLOOR PLAN
SCALE 1 : 50

ASSESSMENT CRITERIA

FLOOR PLAN				
1	DOORS + WINDOWS	14		
2	ELECTRICAL	11		
3	FIXTURES	8		
4	HATCHING	4		
5	LABELS	5		
SUBTOTAL		42		
SOUTH ELEVATION				
1	ROOF	5 1/2		
2	WALLS + RWDP + FFL	7		
3	DOOR + WINDOW	10		
4	LABELS	1		
SUBTOTAL		23 1/2		
DETAILED SECTION				
1	ROOF	11		
2	FOUNDATION + WALLS + SLAB	7		
3	GUTTER + RWDP	4		
4	HATCHING	5		
5	LABELS	1/2		
SUBTOTAL		27 1/2		
TOTAL		93		
PENALTIES (-)				
GRAND TOTAL				
EXAMINATION NUMBER				
EXAMINATION NUMBER				