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SA EXAM  
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# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P1**

**NOVEMBER 2019**

**MARKING GUIDELINES**

**MARKS: 100**

**These marking guidelines consist of 8 pages.**

ANSWERS		
1	CLARK	1
2	1818	1
3	KRYPTON PTY (LTD)	1
4	2018/12/20	1
5	VERIFY ALL DIMENSIONS AND LEVELS	1
6	GRAVEL	1
7	6 m	1
8	2044	1
9	BROWN	1
10	BUILD-IN CUPBOARD	1
11	TO BE REMOVED	1
12	NORTH	1
13	IE	1
14	SHRUBBERY	1
15	SEPTIC TANK and FRENCH DRAIN	2
16	SOUTH WEST	1
17	CLUBHOUSE, DECK, POOL	3
18	See below	3
19		3
20		4
TOTAL		30

**ANSWER 18**

$$\begin{aligned}
 &AB + BC + CD + DE + EF + FG + GA \\
 &= 16.06 + 7.05 + 23.36 + 26.41 + \\
 &\quad 18.07 + 53.16 + 47.69 \\
 &= 191.80 \text{ m}
 \end{aligned}$$

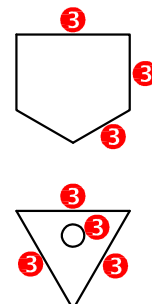
**ANSWER 19**

$$\begin{aligned}
 \text{AREA} &= (5 \times 6) + (7 \times 4) \\
 &= 30 + 28 \\
 &= 58\text{m}^2 \\
 &= 5.3 \times 5.95 \\
 &= 31.54\text{m}^2 \\
 &= 3 \times 5 \\
 &= 15\text{m}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{AREA} &= 58 + 31.54 + 15 \\
 &= 104.54\text{m}^2
 \end{aligned}$$

**ANSWER 20**

FREEHAND



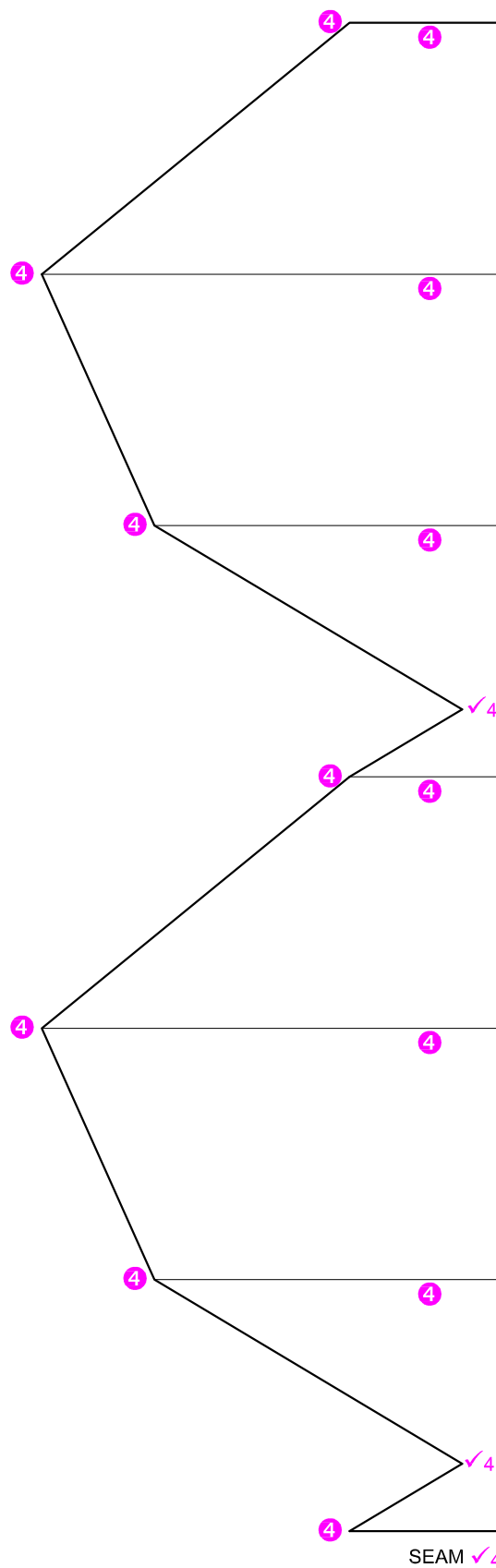
Orthographic projection of a hexagonal prism. The front view (top) shows a rectangle with a horizontal line across the middle, divided into three sections. The top and bottom sections are labeled with blue '2's, and the middle section is labeled with blue '2's. The side view (bottom) shows a rectangle with a horizontal line across the middle, divided into three sections. The top and bottom sections are labeled with red '3's, and the middle section is labeled with red '3's. The top view (left) shows a hexagon with a horizontal line across the middle, divided into three sections. The top and bottom sections are labeled with orange '1's, and the middle section is labeled with orange '1's. The front view is labeled 'X' and the side view is labeled 'Y'.

Orthographic projection of a hexagonal prism. The front view (top) shows a rectangle with a horizontal line across the middle, divided into three sections. The top and bottom sections are labeled with blue '2's, and the middle section is labeled with blue '2's. The side view (bottom) shows a rectangle with a horizontal line across the middle, divided into three sections. The top and bottom sections are labeled with red '3's, and the middle section is labeled with red '3's. The top view (left) shows a hexagon with a horizontal line across the middle, divided into three sections. The top and bottom sections are labeled with orange '1's, and the middle section is labeled with orange '1's. The front view is labeled 'X' and the side view is labeled 'Y'.

ASSESSMENT CRITERIA	
1	TOP VIEW
2	RIGHT VIEW
3	FRONT VIEW
4	DEVELOPMENT
TOTAL	

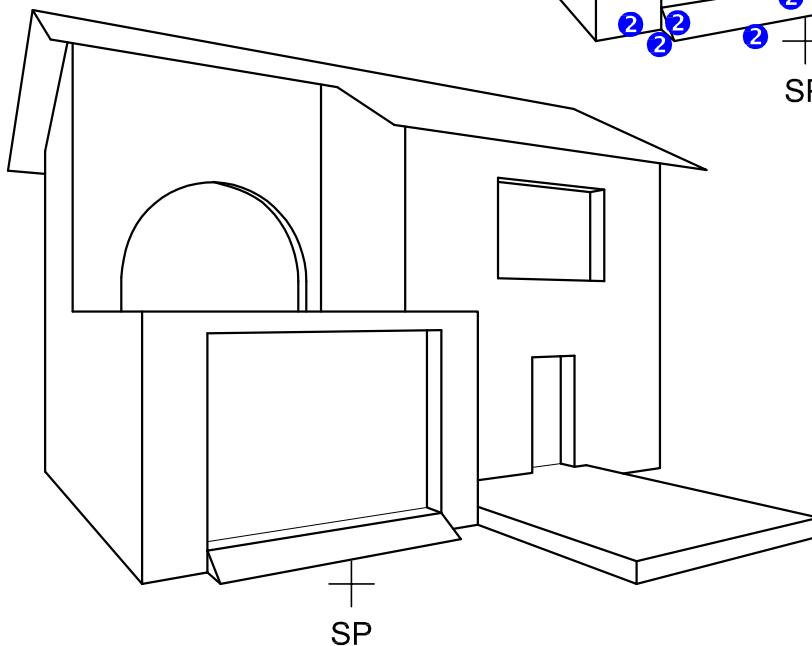
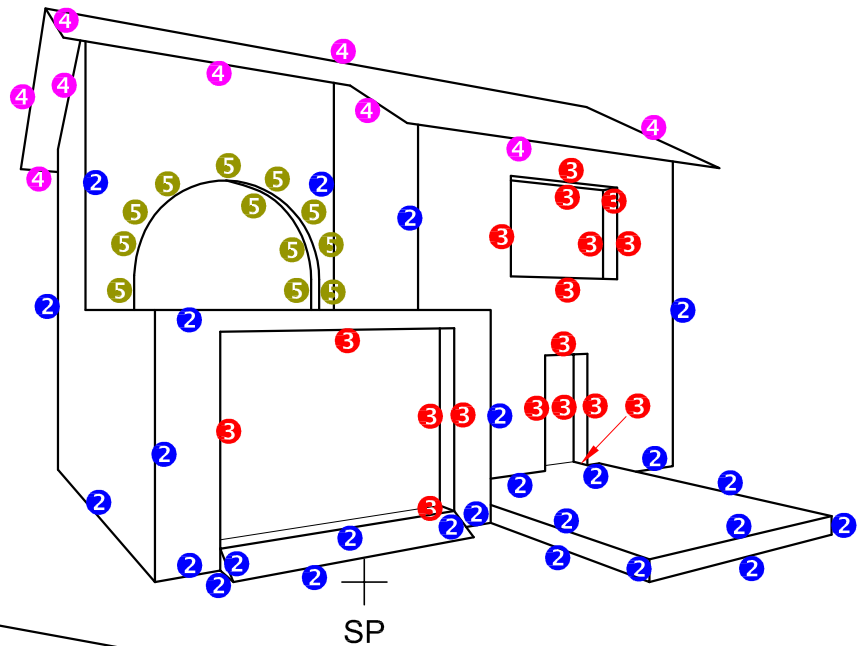
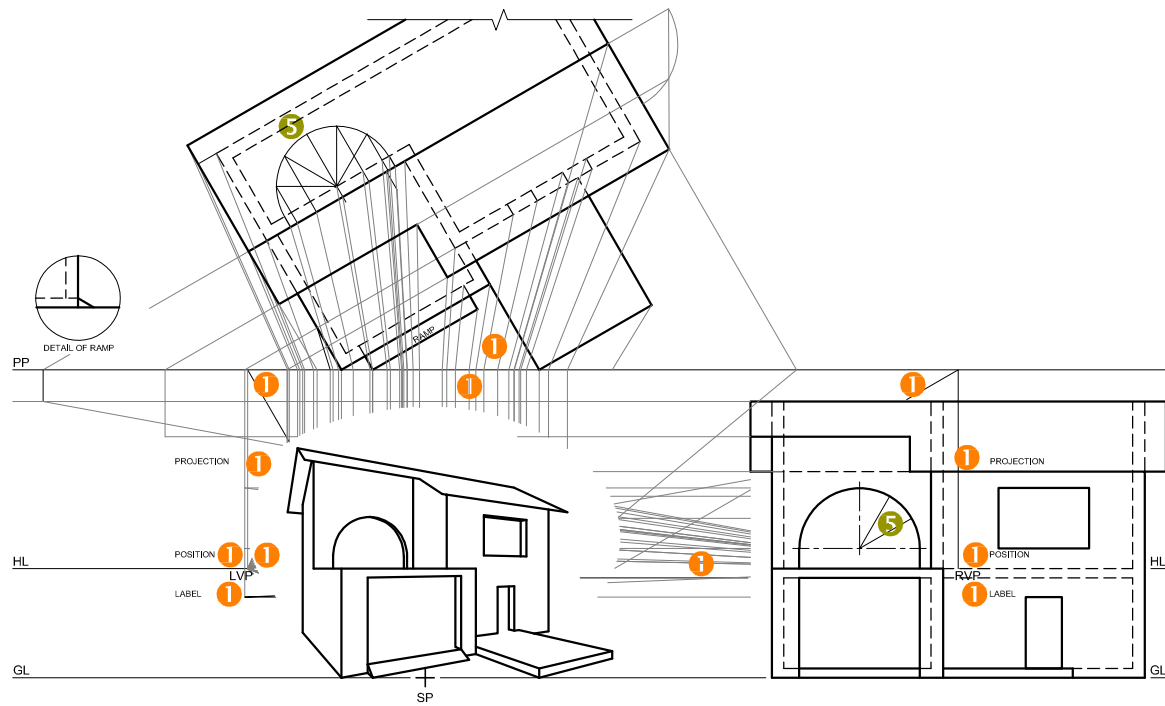
7 <sup>1</sup> / <sub>2</sub>
5
13
11 <sup>1</sup> / <sub>2</sub>
37

PAPER 1 QUESTION 2  
GRADE 12  
NOVEMBER 2019  
MARKING GUIDELINES



✓ 4 SIX EQUAL SPACES  
✓ 4 BASE LINE

PAPER 1 QUESTION 2  
GRADE 12  
NOVEMBER 2019  
MARKING GUIDELINES



ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALLS	13
3	DOORS + WINDOWS	8 $\frac{1}{2}$
4	ROOF	4 $\frac{1}{2}$
5	ARCS	7
<b>TOTAL</b>		<b>39</b>

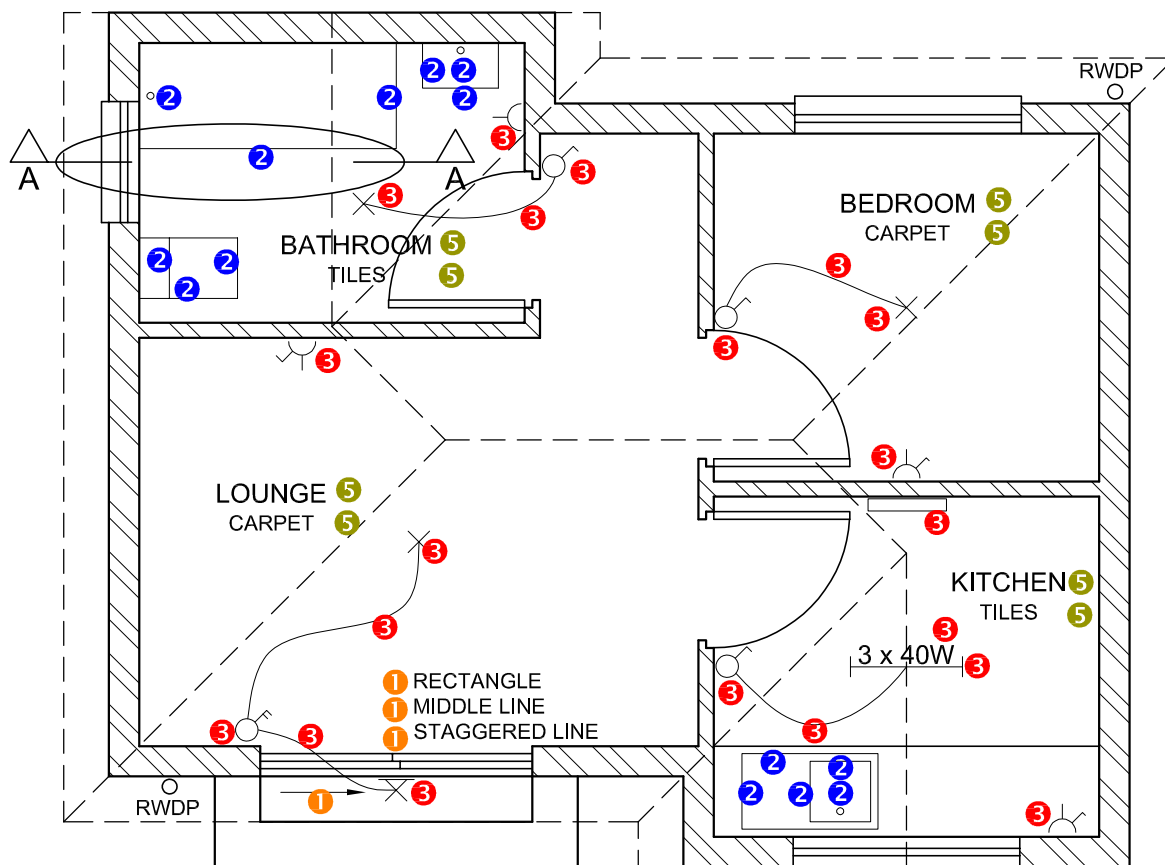
PAPER 1 QUESTION 3  
GRADE 12  
NOVEMBER 2019  
MARKING GUIDELINE

**FLOOR PLAN**

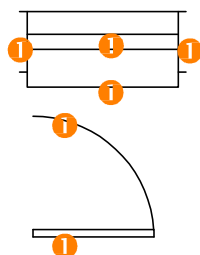
1	DOORS + WINDOWS	11
2	FIXTURES	7
3	ELECTRICAL	10
4	HATCHING	3
5	LABELS	4
<b>SUBTOTAL</b>		<b>35</b>

**4 HATCHING ALLOCATION**

SANS COMPLIANT (TYPE)	1
HATCHING CORRECTLY APPLIED	2
<b>TOTAL</b>	<b>3</b>



**FLOOR PLAN**  
SCALE 1 : 50



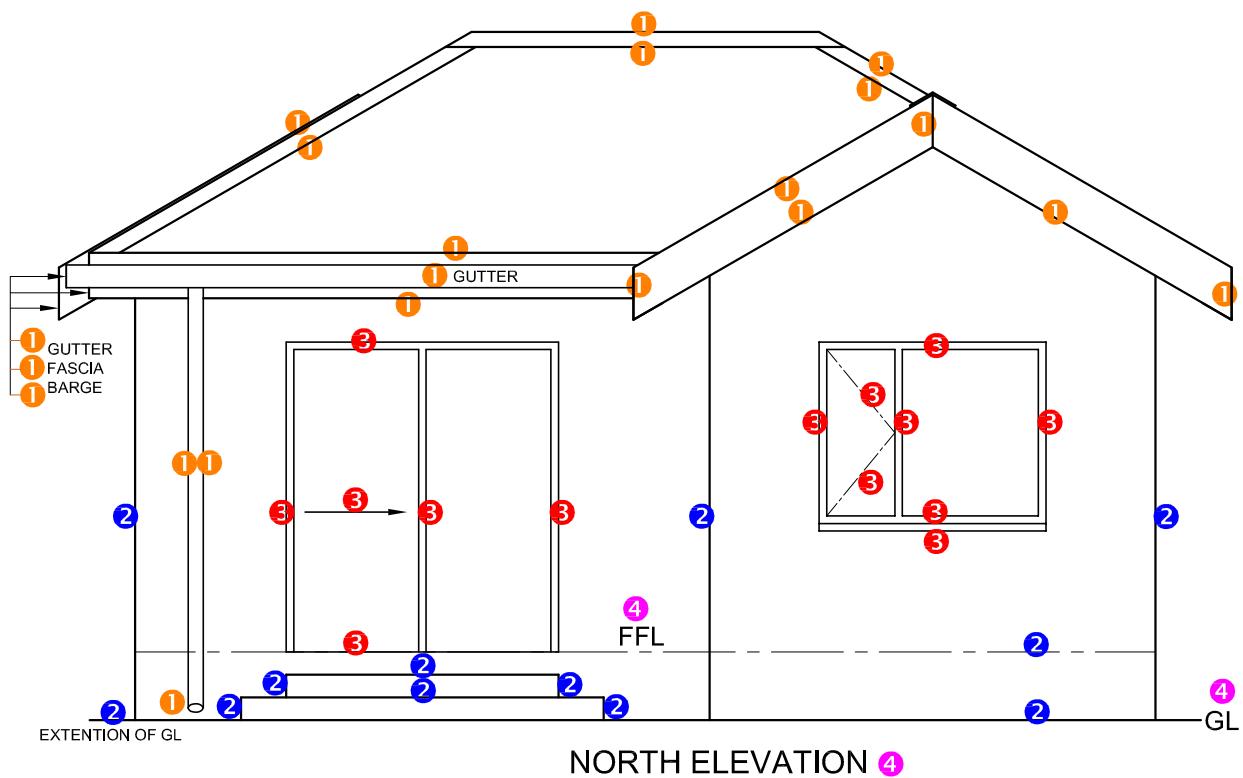
DETAIL OF MARK  
ALLOCATION FOR A  
WINDOW (2 x 3 windows = 6)

DETAIL OF MARK  
ALLOCATION FOR A  
DOOR (1 x 3 doors = 3)

PAPER 1 QUESTION 4  
GRADE 12  
NSC 2019  
MARKING GUIDELINES

**NORTH ELEVATION**

1	ROOF + RWDP	$10\frac{1}{2}$
2	WALLS + STEP + FFL	6
3	DOOR + WINDOW	7
4	LABELS	$1\frac{1}{2}$
<b>SUBTOTAL</b>		<b>25</b>



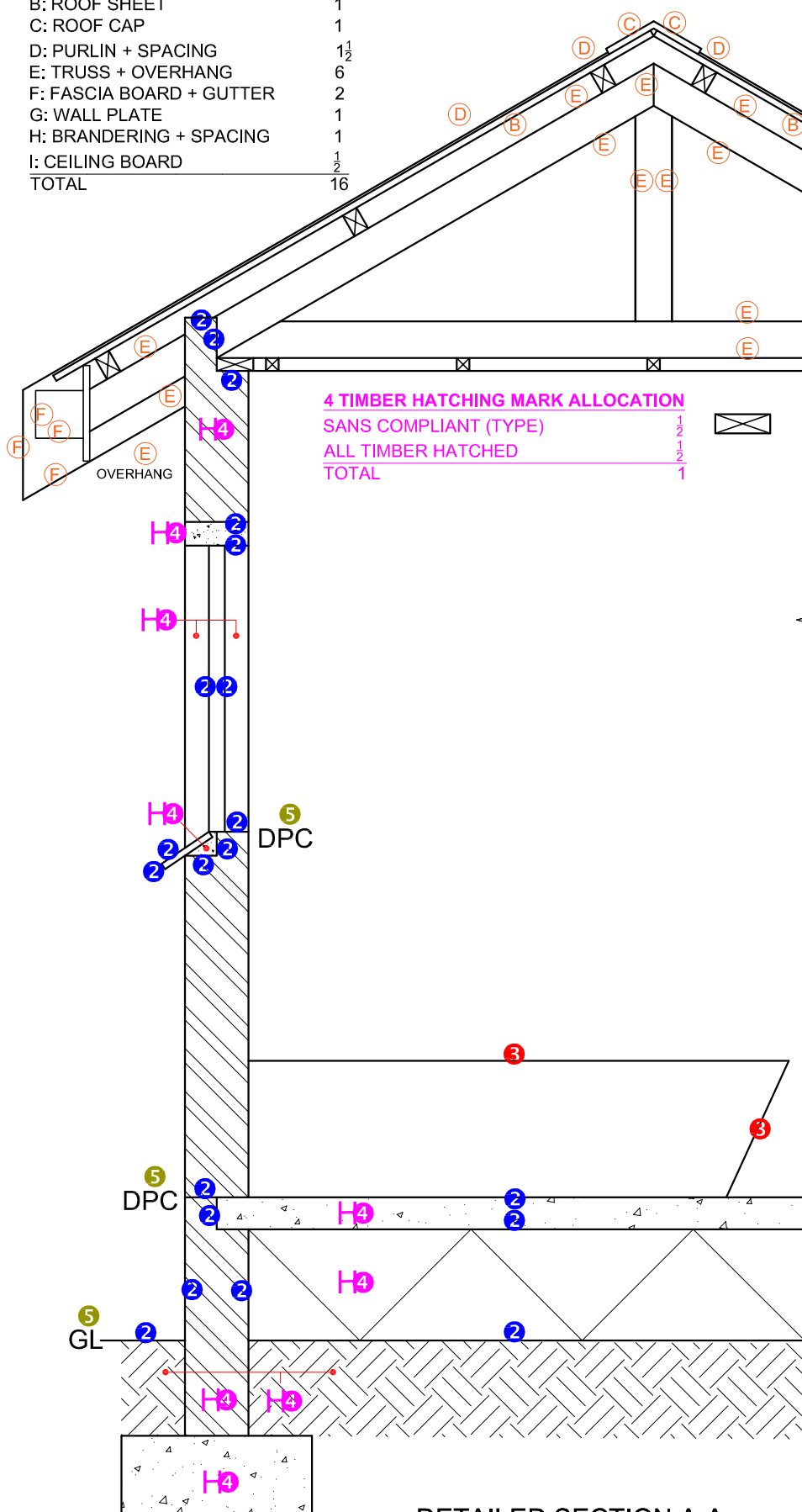


**1. MARK ALLOCATION FOR ROOF**

A: ROOF ANGLE	1 + 1	2
B: ROOF SHEET		1
C: ROOF CAP		1
D: PURLIN + SPACING		1½
E: TRUSS + OVERHANG		6
F: FASCIA BOARD + GUTTER		2
G: WALL PLATE		1
H: BRANDING + SPACING		1
I: CEILING BOARD		½
<b>TOTAL</b>		<b>16</b>

**DETAILED SECTION**

1	ROOF DETAIL	16
2	FOUNDATION + WALL + WINDOW	10
3	BATH	1
4	HATCHING	5½
5	LABELS	1½
<b>SUBTOTAL</b>		<b>34</b>



**DETAILED SECTION A-A**  
**SCALE 1 : 20**

PAPER 1 QUESTION 4  
GRADE 12  
NSC 2019  
MARKING GUIDELINES