



Province of the  
**EASTERN CAPE**  
DEPARTMENT OF EDUCATION

**NATIONAL SENIOR CERTIFICATE  
NASIONALE SENIOR SERTIFIKAAT**

**GRADE 12  
GRAAD 12**

**ENGINEERING GRAPHICS AND DESIGN P1  
INGENIEURSGRAFIKA EN -ONTWERP V1**

**SEPTEMBER 2023  
PREPARATORY EXAMINATION / VOORBEREIDINGSEKSAMEN  
MARKING GUIDELINE / NASIENRIGLYN**

**MARKS / PUNTE: 200 / 2 = 100**

**TIME / TYD: 3 hours / uur**

**This marking guideline consists of 7 pages.  
Hierdie nasienriglyn bestaan uit 7 bladsye.**

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**PAPER 1**  
**QUESTION 1: ANALYTICAL**  
 Gr. 12  
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 MARKING GUIDELINE

**VRAESTEL 1**  
**VRAAG 1: ANALITIES**  
 Gr. 12  
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 NASIENRIGLYN

QUESTION 1 ANSWERS		
1	LEAH	1
2	ROTHERHAM	1
3	SITE- 1144-23	1
4	3,6m	1
5	2023-03-01	1
6	ONE	1
7	<b>SKETCH BELOW</b>	1
8	PALISADE FENCING	1
9	RED	1
10	2 800 mm or 2,8 m	1
11	2	1
12	1,8 m	2
13	NEW PLAN IS OVER THE BL	2
14	NORHT-EAST	2
15	<b>CALCULATION BELOW</b>	4
16	<b>CALCULATION BELOW</b>	4
17	<b>SKETCH BELOW</b>	4
	<b>TOTAL</b>	<b>29</b>

VRAAG 1 ANTWOORDE		
1	LEAH	1
2	ROTHERHAM	1
3	ERF- 1144-23	1
4	3,6m	1
5	2023-03-01	1
6	EEN	1
7	<b>SKETS ONDER</b>	1
8	PALISSADE HEINING	1
9	ROOI	1
10	2 800 mm of 2,8 m	1
11	2	1
12	1,8 m	2
13	NUWE PLAN IS OOR DIE BL	2
14	NOORD-OOS	2
15	<b>BEREKENINGE ONDER</b>	4
16	<b>BEREKENINGE ONDER</b>	4
17	<b>SKETS ONDER</b>	4
	<b>TOTAAL</b>	<b>29</b>

**VRAAG / QUESTION 7**

correct direction/  
korrekte rigting ✓

2800 BL

[1]

**VRAAG / QUESTION 15**  
 Toon alle berekeninge / Show all calculations

calculation: (+)(-) ✓      23 X 4 = 92 m      berekening: (+)(-) ✓  
 correct values ✓      3 X 4 = 1,2 m      korrekte waardes ✓  
 correct answer ✓      = 93.2 m      korrekte antwoord ✓  
 correct unit ✓           korrekte eenheid ✓

**OR / OF**  
 (0.4 X 26) + (3,6 X 23) = 10,4 m + 82,8 m  
 = 93.2 m

[4]

**VRAAG / QUESTION 16**  
 Toon alle berekeninge / Show all calculations

(l x b) + (l x b) + (l x b)      **FORMULA / FORMULE** ✓  
 (5.6 x 6) + (2 X 2.8) + (2.8 X 0.8)  
 = 33.6 + 5.6 + 2.24  
 = 41.44 m<sup>2</sup>

**OR / OF**

(7.6 x 6.8) - ((3.2 X 2) + (4.8 X 0.8))      **KORREKTE WAARDES** ✓  
 = 51.68 - (6.4 + 3.84)      **KORREKTE ANTWOORD** ✓  
 = 41.44 m<sup>2</sup>      **KORREKTE EENHEID m<sup>2</sup>** ✓

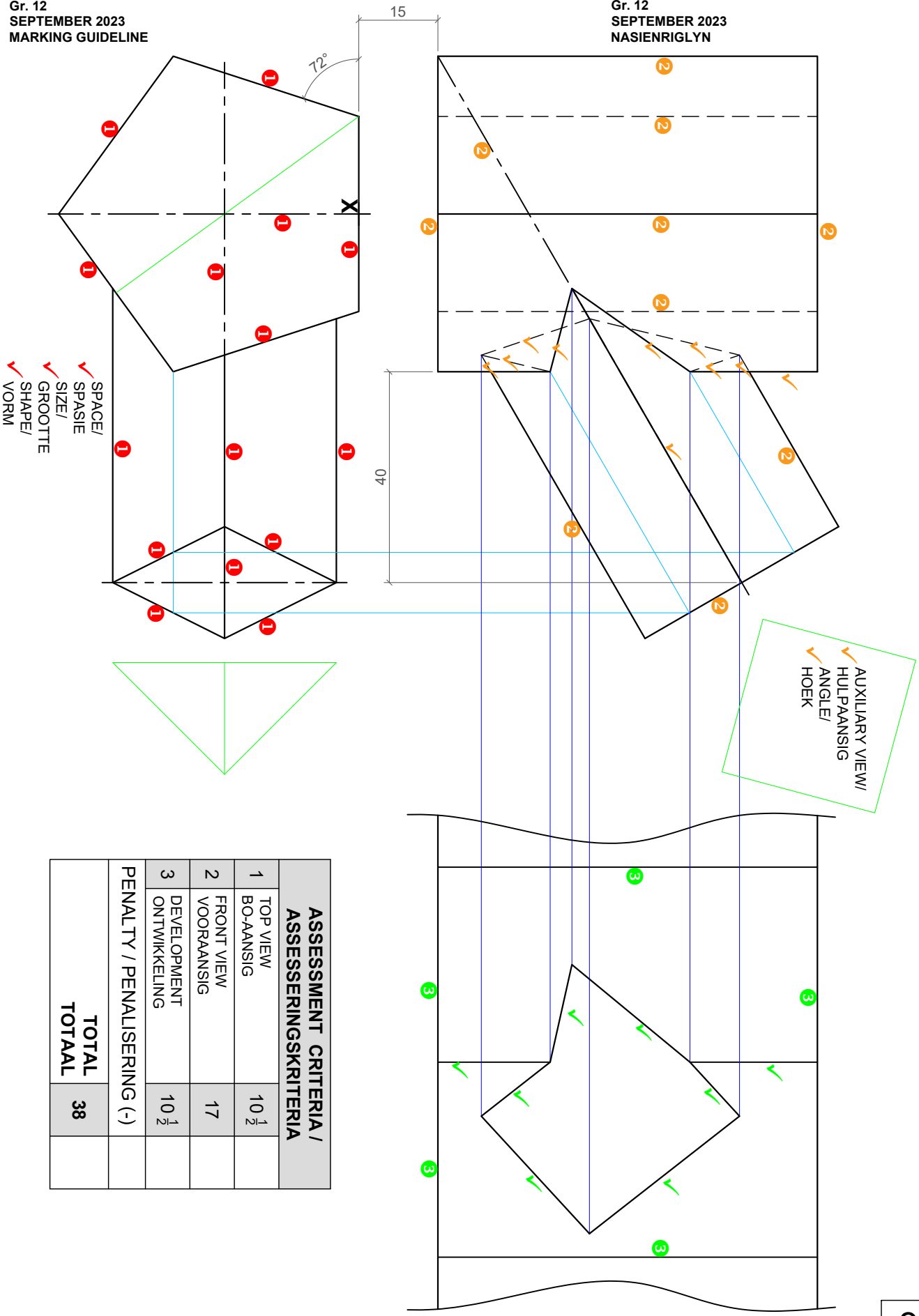
[4]

**VRAAG / QUESTION 17**  
 Vryhand  
Freehand

[4]

**PAPER 1**  
**QUESTION 2: INTERPENETRATION AND DEVELOPMENT**  
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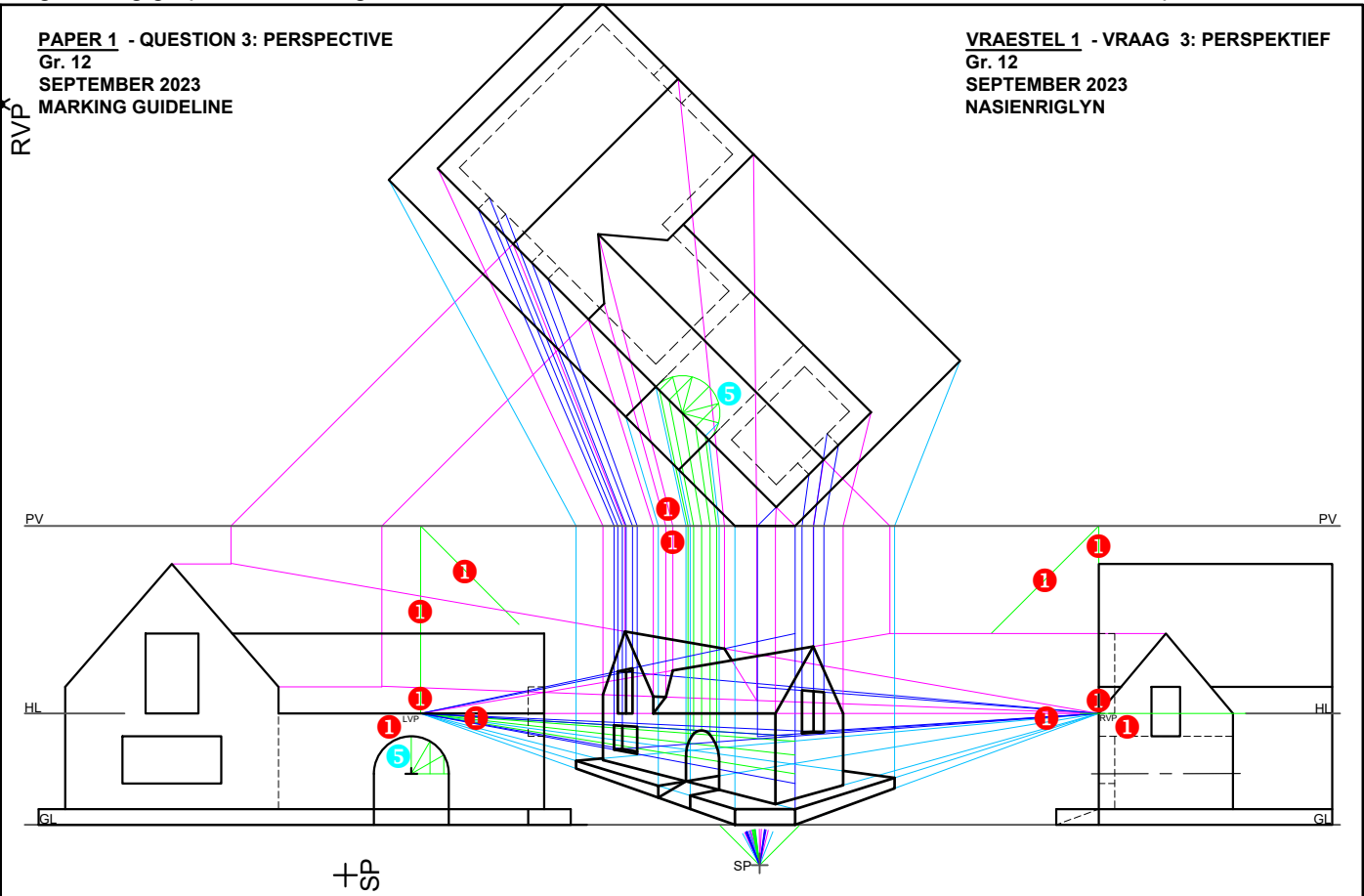
**VRAESTEL 1**  
**VRAAG 2: INTERPENETRASIE EN ONTWIKKELING**  
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ASSESSMENT CRITERIA / ASSESSERINGSKRITERIA			
1	TOP VIEW BO-AANSIG	10 ½	
2	FRONT VIEW VOORAANSIG	17	
3	DEVELOPMENT ONTWIKKELING	10 ½	
PENALTY / PENALISERING (-)			
<b>TOTAL</b>		<b>38</b>	
<b>TOTAAL</b>			

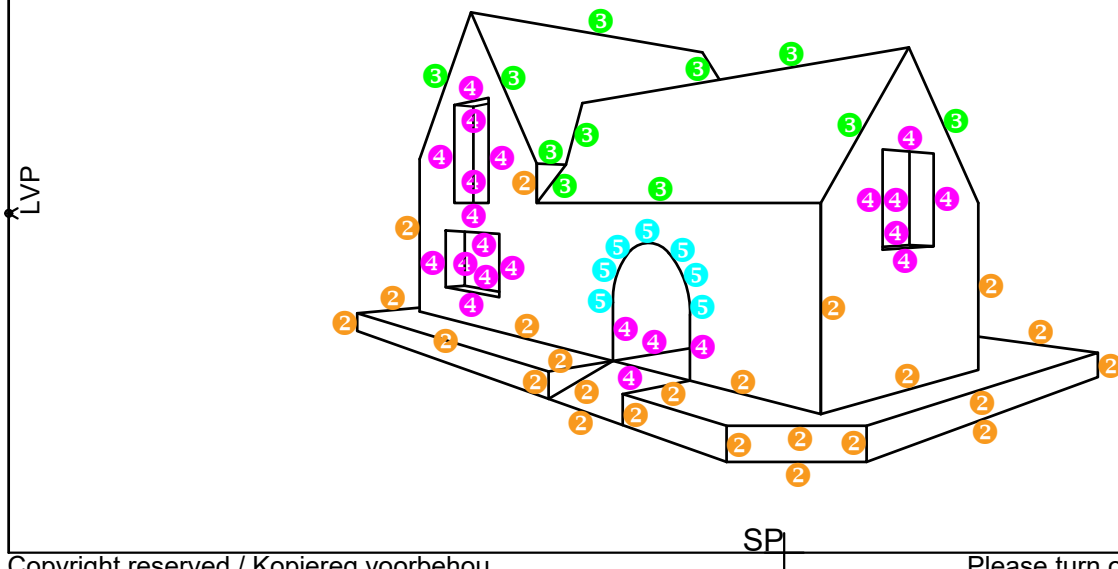
**PAPER 1 - QUESTION 3: PERSPECTIVE**  
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**VRAESTEL 1 - VRAAG 3: PERSPEKTIEF**  
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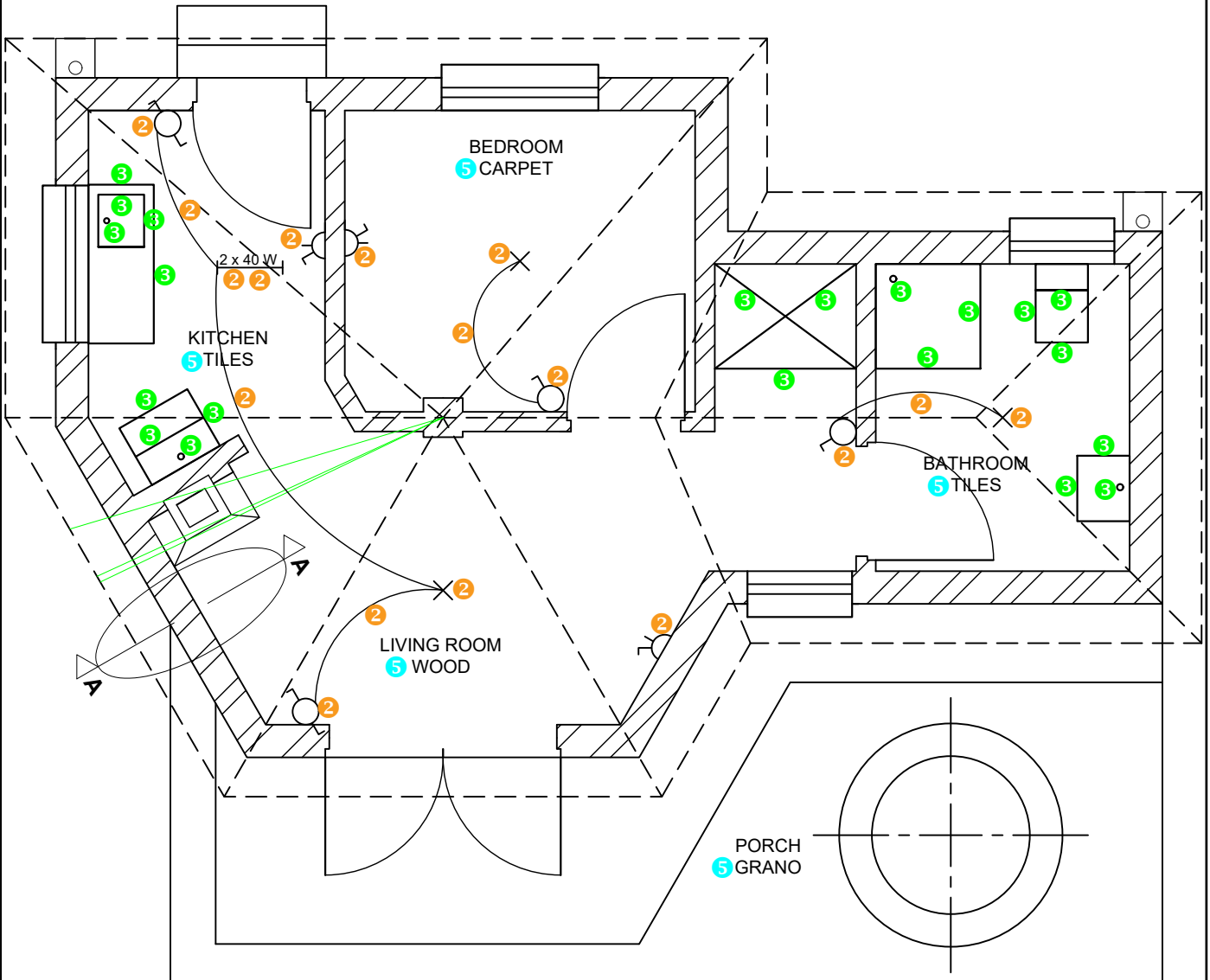
ASSESSMENT CRITERIA		
1	CONSTRUCTION + VP's	6
2	WALLS + PORCH	12
3	ROOF	5½
4	WINDOWS + DOOR	11
5	ARCH + CONSTRUCTION	4½
<b>TOTAL</b>		<b>39</b>

ASSESSERINGSKRITERIA		
1	KONSTRUKSIE EN VP'te	6
2	MURE + STOEP	12
3	DAK	5½
4	VENSTERS + DEUR	11
5	BOOG EN KONSTRUKSIE	4½
<b>TOTAAL</b>		<b>39</b>



**PAPER 1 - QUESTION 4: FLOOR PLAN**  
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**VRAESTEL 1 - VRAAG 4: VLOERPLAN**  
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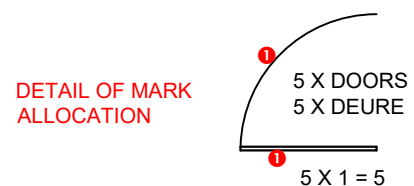
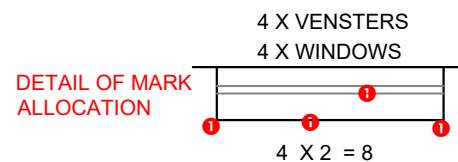
**FLOOR PLAN**  
**SCALE 1 : 50**

**Hatching:** All hatched ✓4 ✓4  
 SANS compliant ✓4  
 Instruments must be used

**Arsering:** Alles gearseer ✓4 ✓4  
 Voldoen aan SANS riglyne ✓4  
 Moet instrumente gebruik

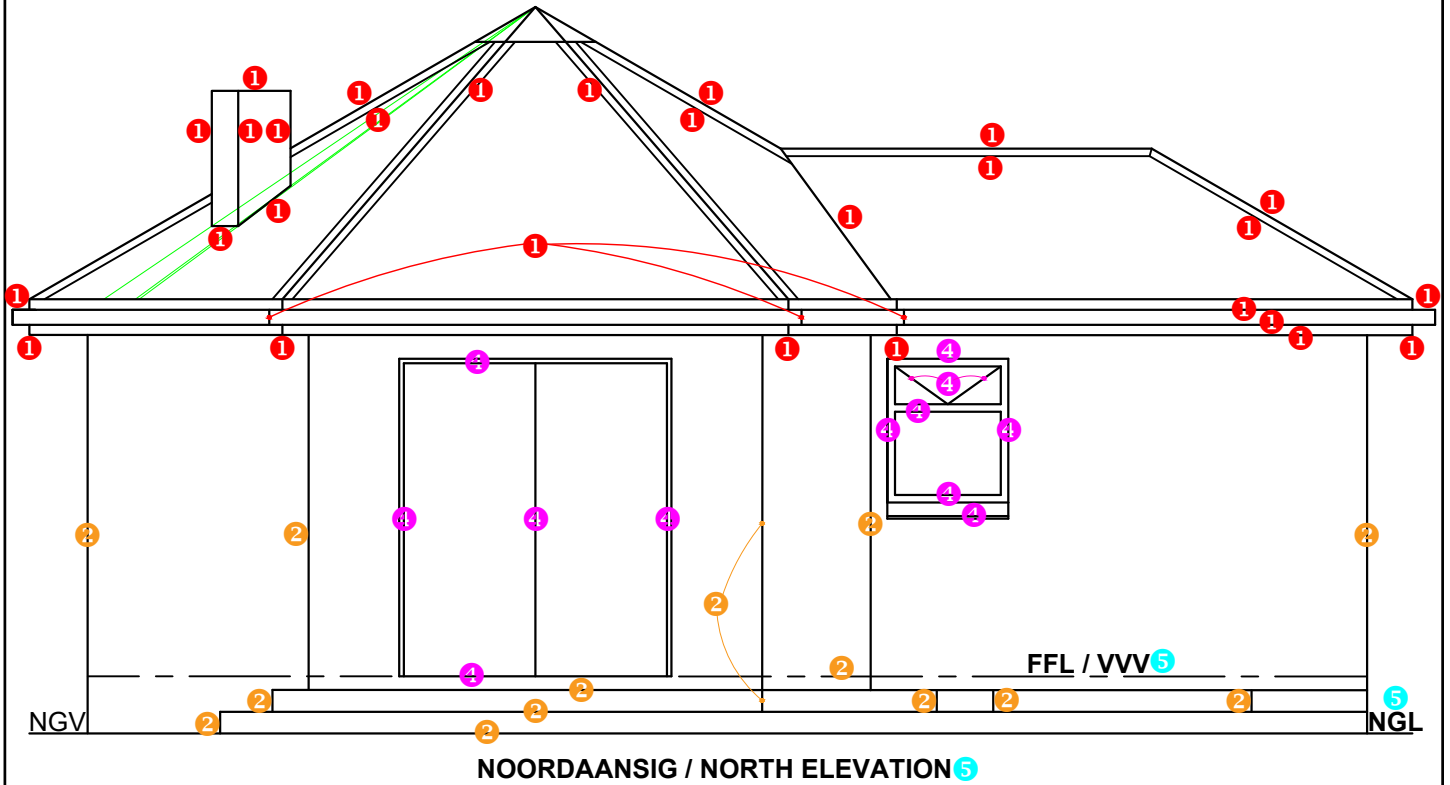
ASSESSMENT CRITERIA		
FLOOR PLAN		
1	DOORS + WINDOWS	13
2	ELECTRICAL	8 ½
3	FIXTURES	10 ½
4	HATCHING	3
5	LABELS	2 ½
<b>SUB TOTAL</b>		<b>37 ½</b>

ASSESSERINGSKRITERIA		
VLOERPLAN		
1	DEURE + VENSTERS	13
2	ELEKTRIES	8 ½
3	TOEBEHORE	10 ½
4	ARSERING	3
5	BYSKRIFTE	2 ½
<b>SUBTOTAAL</b>		<b>37 ½</b>



**PAPER 1 - QUESTION 4: ELEVATION**  
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**VRAESTEL 1 - VRAAG 4: ELEVASIE**  
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ASSESSERINGSKRITERIA		
NOORDAANSIG		
1	DAK + FASSIE + GEUT + VORSES + SKOORSTEEN	14
2	MURE + STOEP + TRAPPE + VUURPUT + VVV	7
3	DEUR + VENSTER	6
4	BYSKRIFTE	1 1/2
<b>SUBTOTAAL</b>		<b>28 1/2</b>

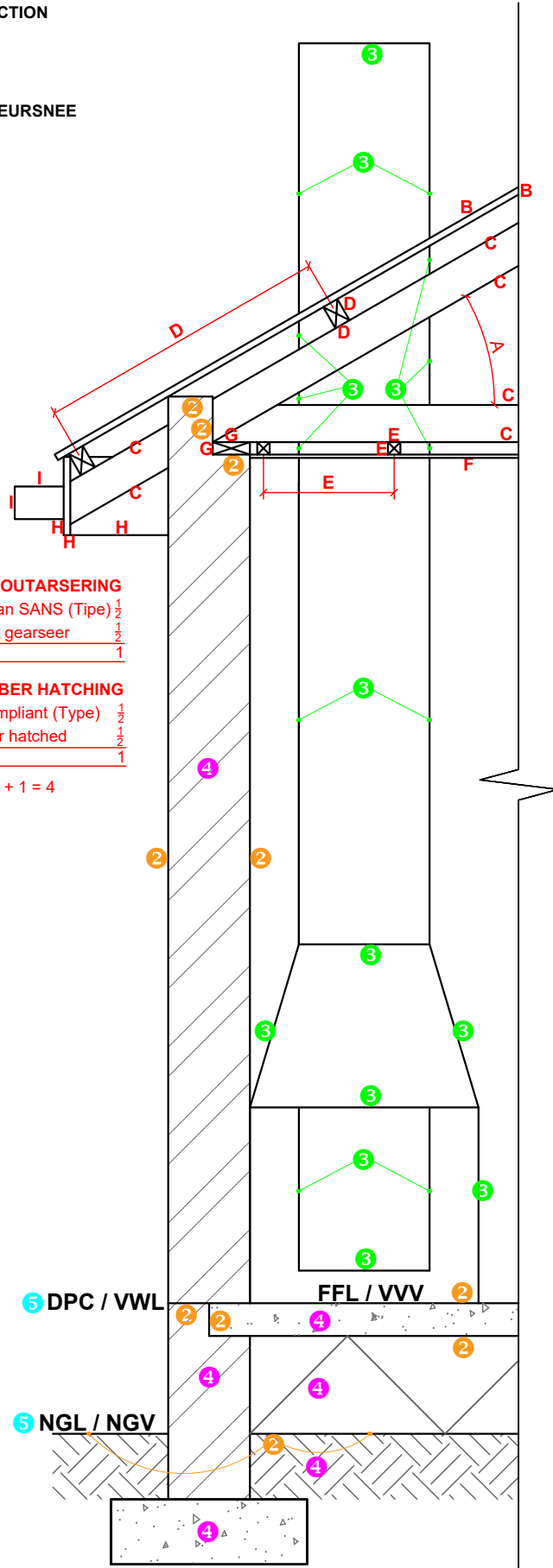
ASSESSMENT CRITERIA		
NORTH ELEVATION		
1	ROOF + FACIA + GUTTER + COVERS + CHIMNEY	14
2	WALLS + PORCH + STEPS + FIRE PIT + FFL	7
3	DOOR + WINDOW	6
4	LABELS	1 1/2
<b>SUB TOTAL</b>		<b>28 1/2</b>

**PAPER 1 - QUESTION 4: SECTION**

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**VRAESTEL 1 - VRAAG 4: DEURSNEE**

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- HOUTARSERING**
- ④ Voldoen aan SANS (Tipe)  $\frac{1}{2}$
  - ④ ALLE hout gearseer  $\frac{1}{2}$
  - TOTAAL** 1
- TIMBER HATCHING**
- ④ SANS Compliant (Type)  $\frac{1}{2}$
  - ④ ALL timber hatched  $\frac{1}{2}$
  - TOTAL** 1
- 3 + 1 = 4

**DETAILED SECTION A-A**  
 SCALE 1 : 20  
**GEDETAILEERDE SNIT A-A**  
 SKAAL 1 : 20

ROOF DETAIL: MARK ALLOCATION DAKBESONDERHEDE: PUNTETOEKENNING		
A	ROOF ANGLE / DAKHELLING	1
B	ROOF SHEET / DAKPLAAT	1
C	ROOF TRUSS / DAKKAP	3
D	PURLIN + SPACING / DAKLAT + SPASIE	1 ½
E	BRANDERING + SPACING / PLAFONLATTE + SPASIE	1 ½
F	CEILING BOARD / PLAFON	½
G	WALL PLATE / MUURPLAAT	1
H	FACIA BOARD / FASSIEBORD	1 ½
I	GUTTER / GEUT	1
<b>TOTAL / TOTAAL</b>		<b>12</b>

ASSESSERINGSKRITERIA		
DEURSNEE-AANSIG		
1	DAKBESONDERHEDE	12
2	FONDASIE + MURE + VLOER	5
3	KAGGEL + SKOORSTEEN	6
4	ARSERING	4
5	BYSKRIFTE	1
<b>SUBTOTAAL</b>		<b>28</b>

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF DETAIL	12
2	FOUNDATION + WALLS + FLOOR	5
3	FIREPLACE + CHIMNEY	6
4	HATCHING	4
5	LABELS	1
<b>SUB TOTAL</b>		<b>28</b>