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**NATIONAL SENIOR CERTIFICATE
NASIONALE SENIOR SERTIFIKAAT**

**GRADE 12
GRAAD 12**

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

**SEPTEMBER 2021
PREPARATORY EXAMINATION / VOORBEREIDINGSEKSAMEN
MARKING GUIDELINE / NASIENRIGLYN**

MARKS / PUNTE: 200

TIME / TYD: 3 hours / uur

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

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QUESTION 1 ANSWERS		
1	MR STEPHANUS HEYNS	1
2	2021-02-21	1
3	SCALE 1 : 250	1
4	2019 -11- 22	1
5	DOUBLE GARAGE	1
6	MANHOLE	1
7	SOUTH WEST	2
8	RED	2
9	6,23 m	1
10	TWO	1
11	ENTRANCE ROUTE (ROAD) TO GARAGE	1
12	IT IS OVER THE BUILDING LINE	2
13	45,5 m (Show all calculations)	3
14	344,766 m ² (Show all calculations)	5
15	(Sketch below)	2
TOTAL		25

VRAAG 1 ANTWOORDE		
1	MNR. STEPHANUS HEYNS	1
2	2021-02-21	1
3	SCALE 1 : 250	1
4	2019 -11- 22	1
5	DUBBEL-MOTORHUIS	1
6	MANGAT	1
7	SUIDWES	2
8	ROOI	2
9	6,23 m	1
10	TWEE	1
11	INGANGSROETE (-PAD) NA MOTORHUIS	1
12	DIT IS OOR DIE BOULYN	2
13	45,5 m ² (Toon alle berekeninge)	3
14	344,766 m ² (Toon alle berekeninge)	5
15	(Skets onder)	2
TOTAAL		25

VRAAG / QUESTION 13
Toon alle berekeninge / Show all calculations

calculation: (+)(-) (AD + CD) - Skuifhek / Sliding gate berekening: (+)(-)
correct values korrekte waardes
correct answer korrekte antwoord
correct unit korrekte eenheid

$(23,53 + 28,2) - 6,23 = 45,5 \text{ m}$

[3]

VRAAG / QUESTION 14
Toon alle berekeninge / Show all calculations

AB: 28,2 - 8m = 20,2 m subtract BL afrek van BL
 BC: 23,53 - 6m = 17,53 m correct values korrekte waardes
Multiply Vermenigvuldig
correct answer korrekte antwoord
correct unit m² korrekte eenheid m²

$L \times B: 20,2 \times 17,53 = 354,106 \text{ m}^2$

[5]

VRAAG / QUESTION 15
Vryhand
Freehand ①

----- ✓ -----

DONKER HARTLYN
① (A-TYPE)
DARK CENTRE LINE
(A-TYPE)

[2]

VRAESTEL 1 VRAAG 1: ANALITIES Gr. 12 SEPTEMBER 2021 NASIENRIGLYN	PAPER 1 QUESTION 1: ANALYTICAL Gr. 12 SEPTEMBER 2021 MARKING GUIDELINE
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PAPER 1 - QUESTION 3: INTERPENETRATION AND DEVELOPMENT

Gr. 12

SEPTEMBER 2021

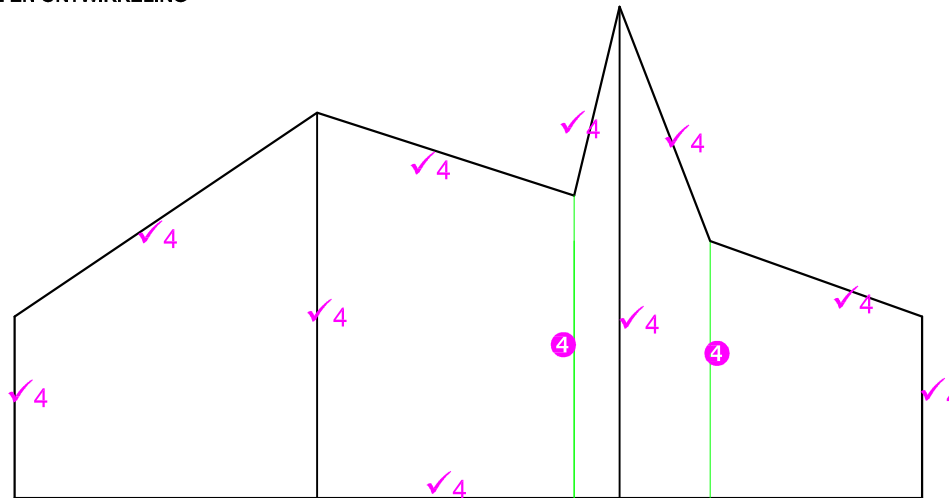
MARKING GUIDELINE

VRAESTEL 1 - VRAAG 3: DEURDRINGINGSKROMME EN ONTWIKKELING

Gr. 12

SEPTEMBER 2021

NASIENRIGLYN



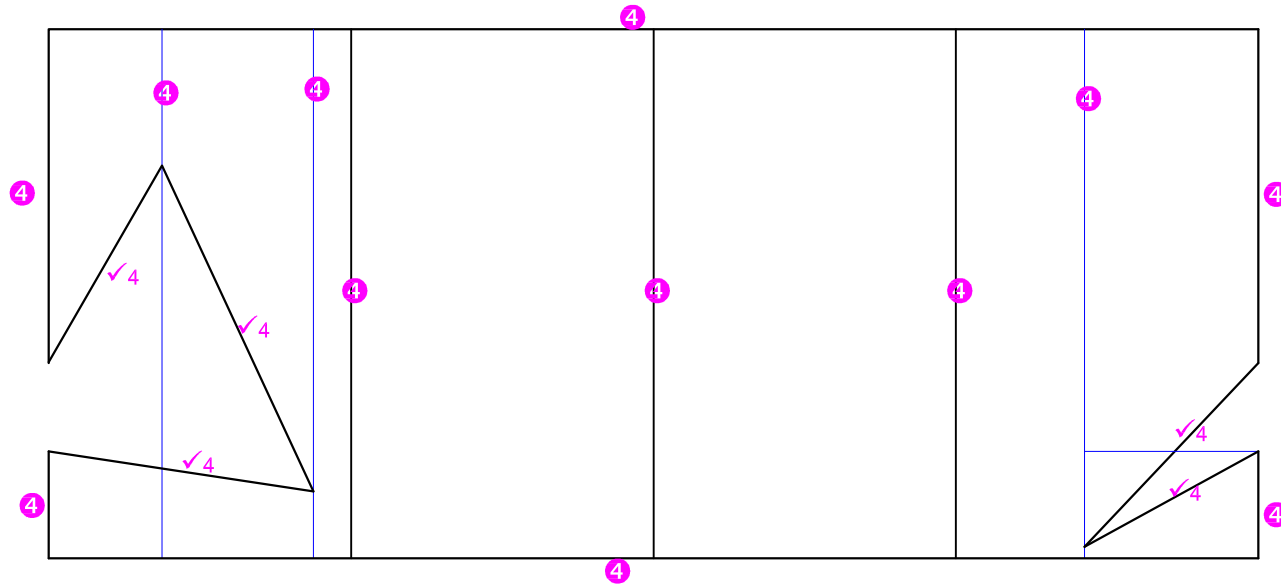
Hierdie is 'n opsie vir die leerders wat die Afrikaanse vraestel beantwoord het
DIE WOORD TAKPYP KON VERWARRING VEROORSAAK IN 2.3

ASSESSERINGSKRITERIA				
1	BOAANSIG	6		
2	VOORAANSIG	9		
3	KONSTRUKSIE	3		
4	ONTWIKKELING	11		
PENALISERING (-)				
TOTAAL		29		

ASSESSMENT CRITERIA				
1	TOP VIEW	6		
2	FRONT VIEW	9		
3	CONSTRUCTION	3		
4	DEVELOPMENT	11		
PENALTIES (-)				
TOTAL		29		

PAPER 1 - QUESTION 3: INTERPENETRATION AND DEVELOPMENT
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VRAESTEL 1 - VRAAG 3: DEURDRINGINGSKROMME EN ONTWIKKELING
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④ = 6
 ✓4 = 5

ASSESSERINGSKRITERIA			
1	BOAANSIG	6	
2	VOORAANSIG	9	
3	KONSTRUKSIE	3	
4	ONTWIKKELING	11	
PENALISERING (-)			
TOTAAL		29	

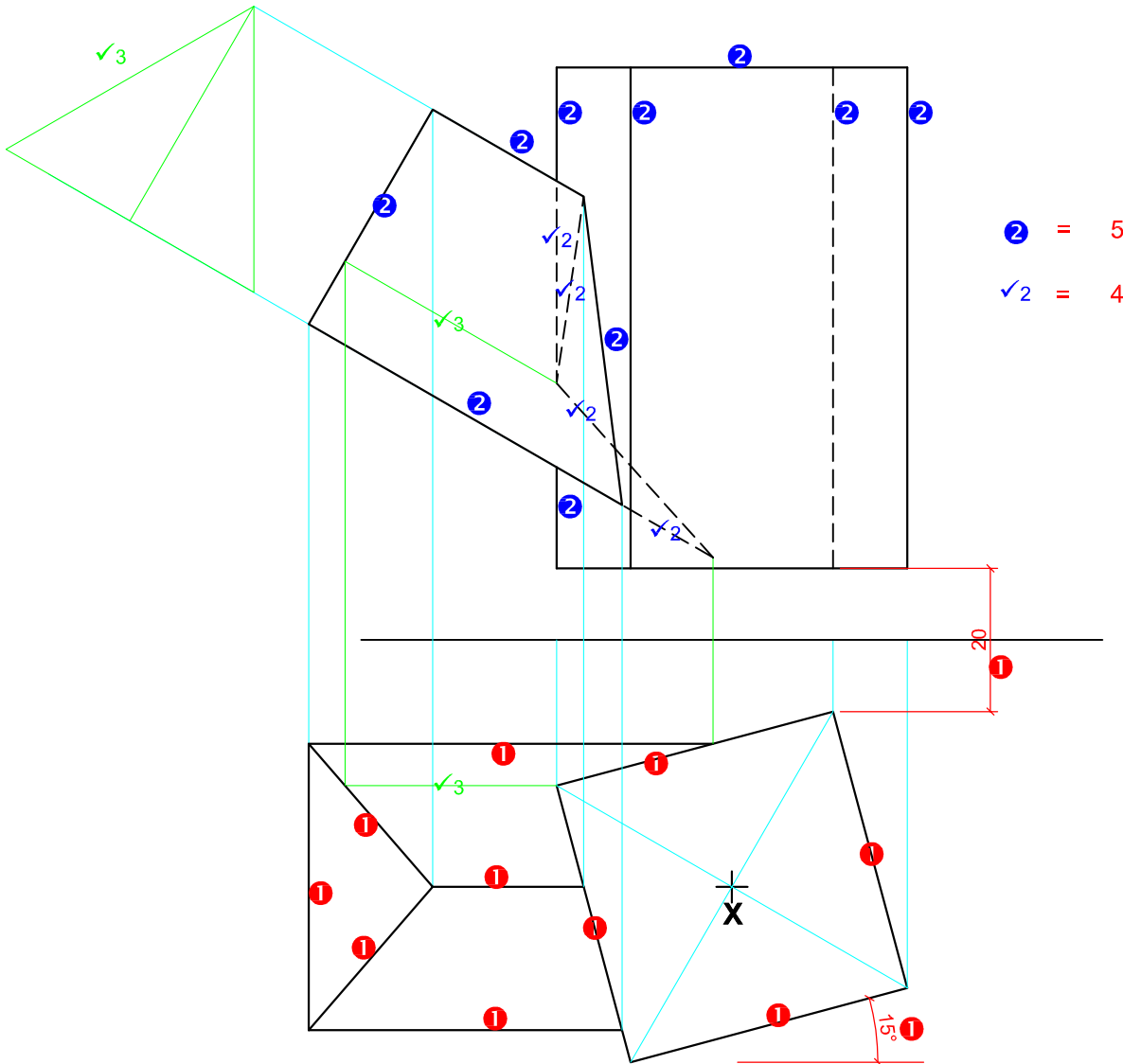
ASSESSMENT CRITERIA			
1	TOP VIEW	6	
2	FRONT VIEW	9	
3	CONSTRUCTION	3	
4	DEVELOPMENT	11	
PENALTIES (-)			
TOTAL		29	

PAPER 1 - QUESTION 3: INTERPENETRATION AND DEVELOPMENT

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VRAESTEL 1 - VRAAG 3: DEURDRINGINGSKROMME EN ONTWIKKELING

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ASSESSERINGSKRITERIA			
1	BOAANSIG	6	
2	VOORAANSIG	9	
3	KONSTRUKSIE	3	
4	ONTWIKKELING	11	
PENALISERING (-)			
TOTAAL		29	

ASSESSMENT CRITERIA			
1	TOP VIEW	6	
2	FRONT VIEW	9	
3	CONSTRUCTION	3	
4	DEVELOPMENT	11	
PENALTIES (-)			
TOTAL		29	

PAPER 1 - QUESTION 3: PERSPECTIVE

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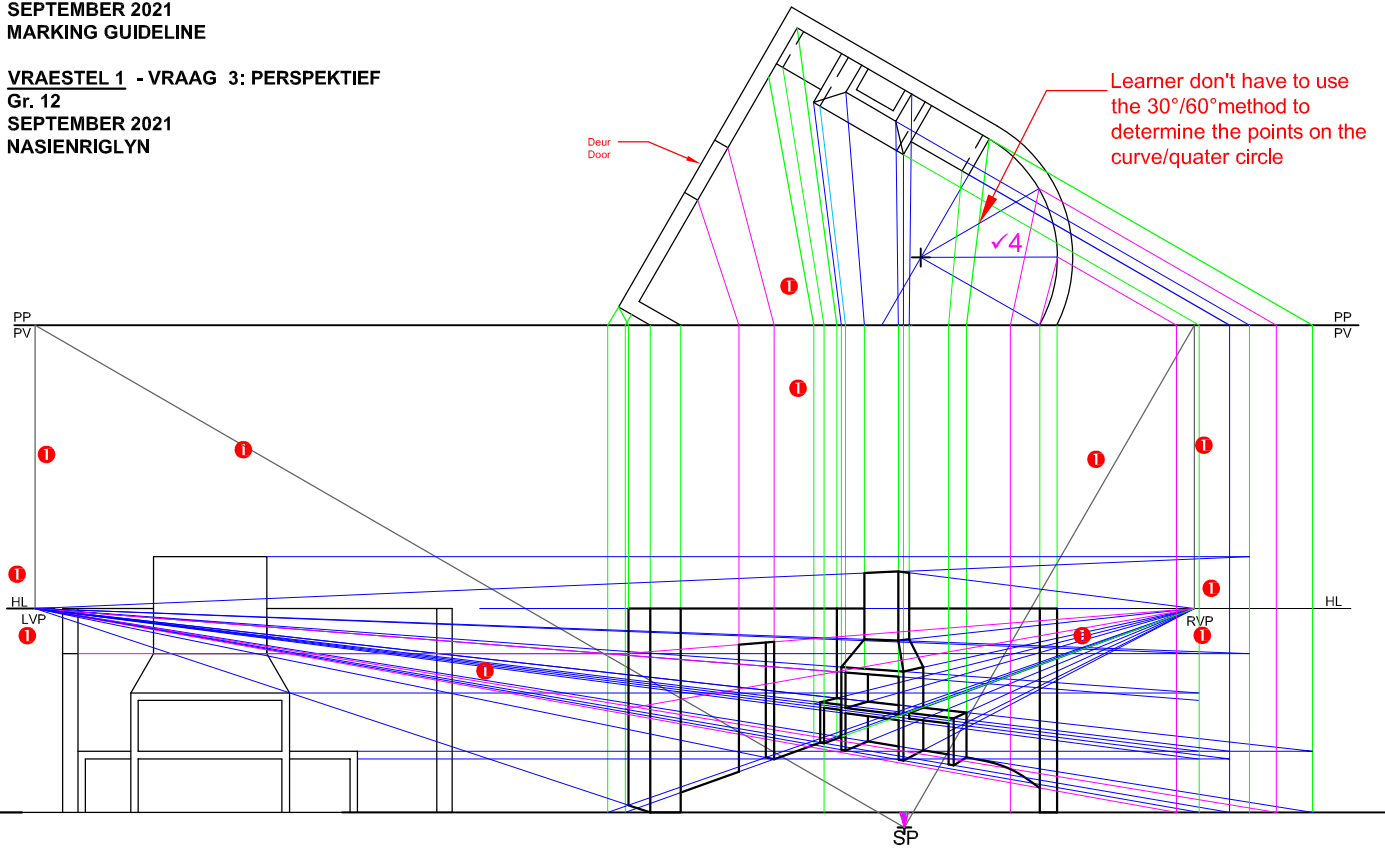
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VRAESTEL 1 - VRAAG 3: PERSPEKTIEF

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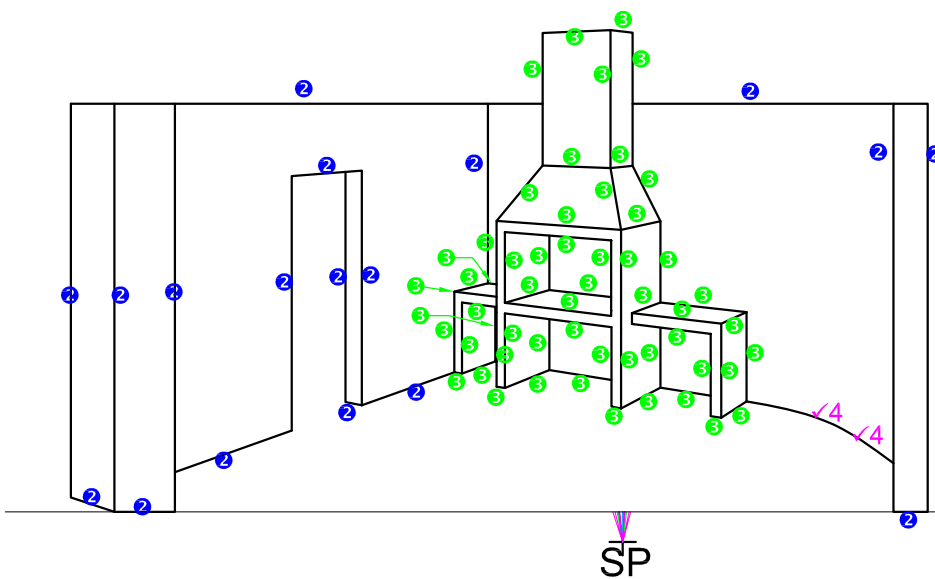
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ASSESSERINGSKRITERIA			
1	KONSTRUKSIE EN VP'te	6	
2	MURE EN DEUR	9	
3	BRAAI-AREA	27	
4	BOOG EN KONSTRUKSIE	3	
TOTAAL		45	

ASSESSMENT CRITERIA			
1	CONSTRUCTION AND VP's	6	
2	WALLS AND DOOR	9	
3	BRAAI AREA	27	
4	ARCH AND CONSTRUCTION	3	
TOTAL		45	

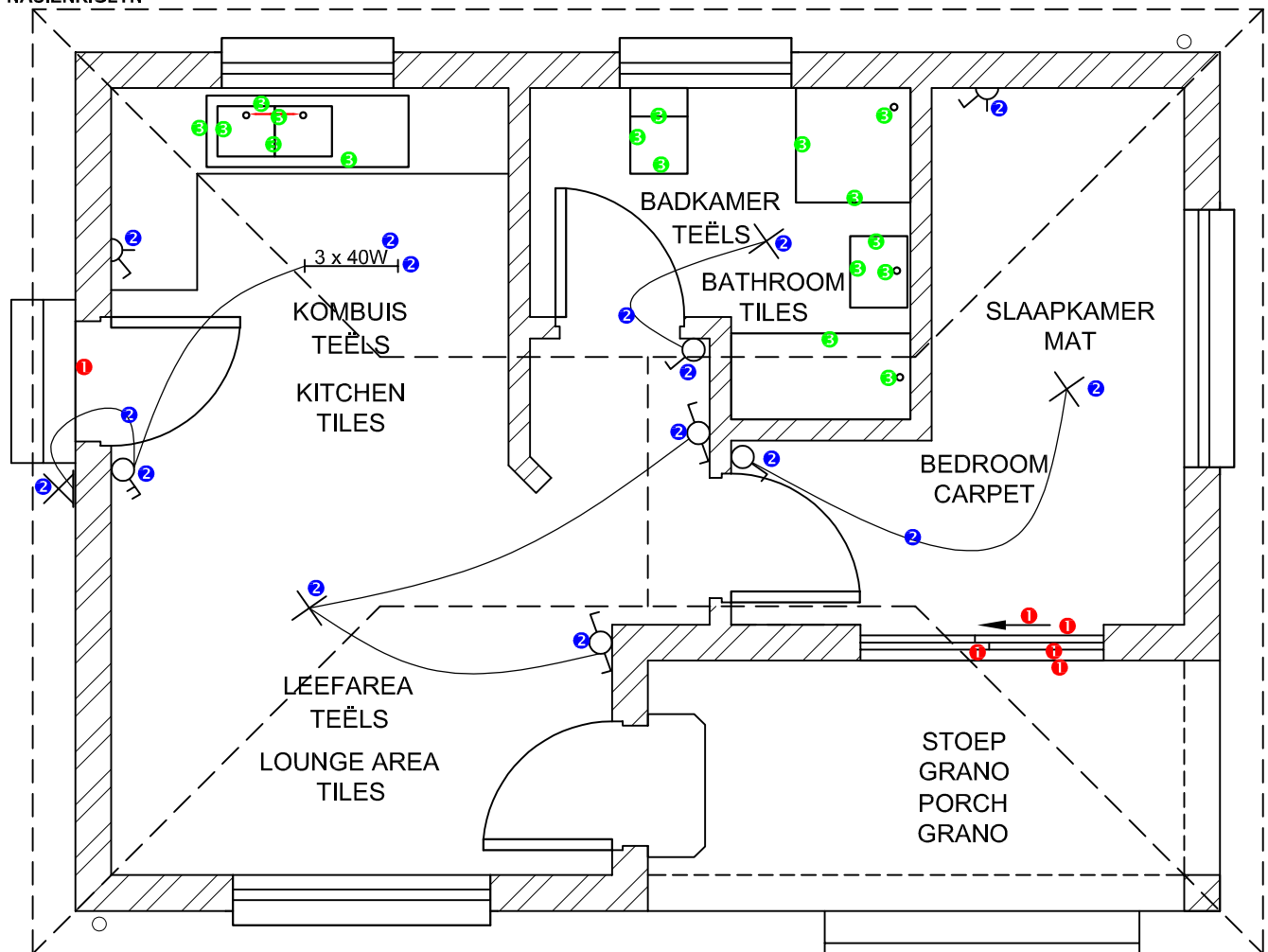


PAPER 1 - QUESTION 4: FLOOR PLAN

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VRAESTEL 1 - VRAAG 4: VLOERPLAN

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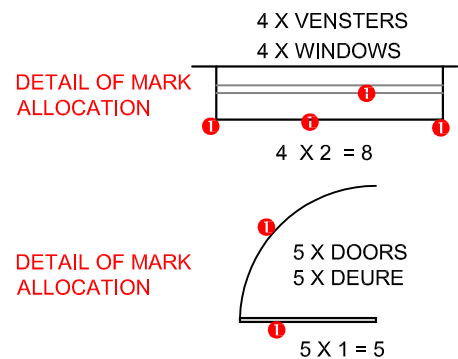
FLOORPLAN VLOERPLAN
SCALE 1 : 50 SKAAL 1 : 50

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

Arsering: Alles gearseer ✓4 ✓4
 Volgens SANS riglyne ✓4
 Moet instrumente gebruik

ASSESSMENT CRITERIA		
FLOOR PLAN		
1	DOORS AND WINDOWS	15
2	ELECTRICAL	8
3	FIXTURES	8
4	HATCHING	3
5	LABELS	5
SUBTOTAL		39

ASSESSERINGSKRITERIA		
VLOERPLAN		
1	DEURE EN VENSTERS	15
2	ELEKTRIES	8
3	TOEBEHORE	8
4	ARSERING	3
5	BYSKRIFTE	5
SUBTOTAAL		39



PAPER 1 - QUESTION 4: ELEVATION

Gr. 12

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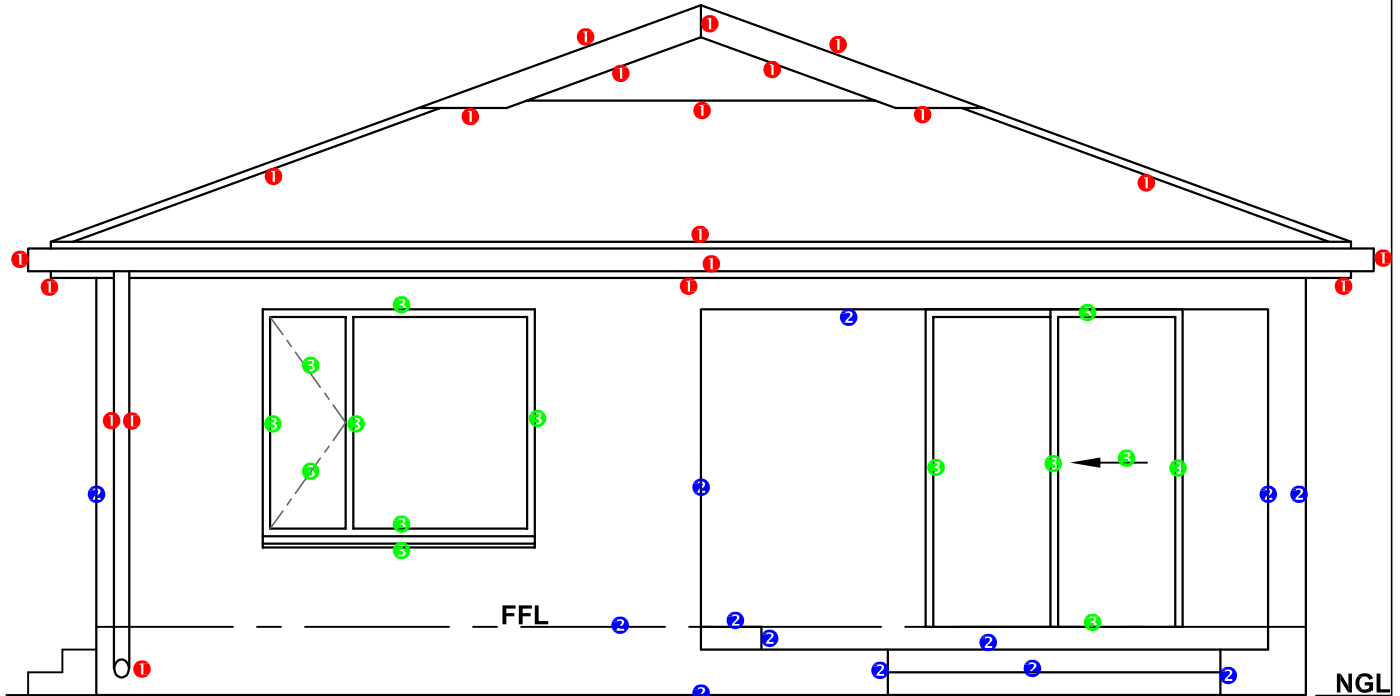
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VRAESTEL 1 - VRAAG 4: ELEVASIE

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NASIENRIGLYN



NORTH ELEVATION
NOORDAANSIG

ASSESSERINGSKRITERIA		
NOORDAANSIG		
1	DAK, GEUT, RWAP, FASSIE, WINDVEER, VORS	10
2	MURE, STOEP, VVW	6 ½
3	DEUR EN VENSTER	7
4	BYSKRIFTE	1 ½
SUBTOTAAL		25

ASSESSMENT CRITERIA		
NORTH ELEVATION		
1	ROOF, GUTTER, RWDP, FACIA, BARGE BOARD, RIDGE COVER	10
2	WALLS, PORCH, FFL	6 ½
3	DOOR AND WINDOW	7
4	LABELS	1 ½
SUBTOTAL		25

PAPER 1 - QUESTION 4: SECTION

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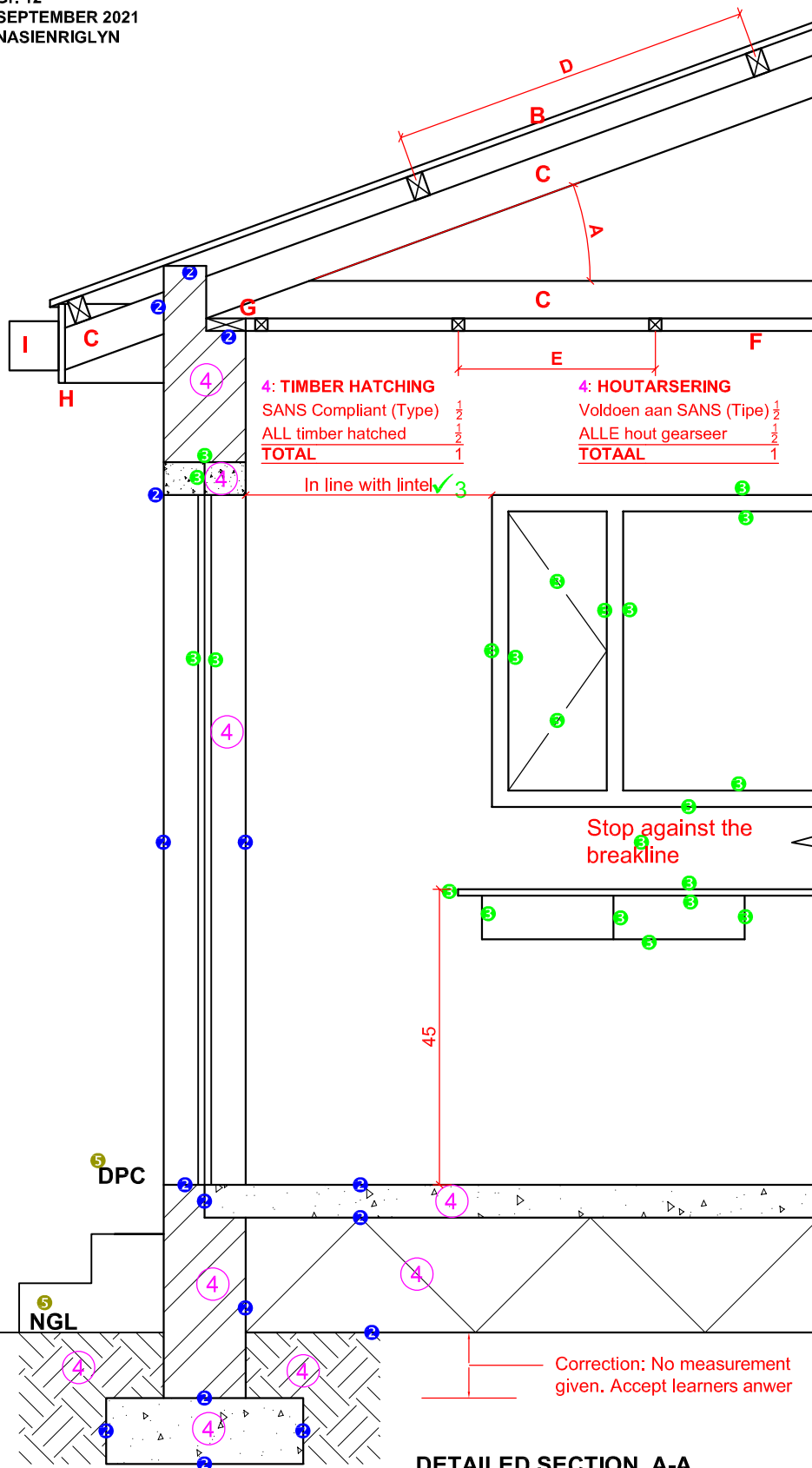
VRAESTEL 1 - VRAAG 4: DEURSNEE

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ROOF DETAIL: MARK ALLOCATION DAKBESONDERHEDE: PUNTTOEKENNING		
A	ROOF ANGLE DAKHELLING	1 ½
B	ROOF SHEET DAKPLAAT	1
C	ROOF TRUSS DAKKAP	3
D	PURLIN + SPACING DAKLAT + SPASIE	1 ½
E	BRANDERING + SPACING PLAFONLAT EN SPASIE	1 ½
F	CEILING BOARD PLAFON	1 ½
G	WALL PLATE MUURPLAAT	1
H	FACIA BOARD FASSIEBORD	1
I	GUTTER GEUT	1
TOTAL / TOTAAL		11

ASSESSERINGSKRITERIA		
DEURSNEE-AANSIG		
1	DAKBESONDERHEDE	11
2	FONDASIES, MURE, VLOER	8
3	DEUR, VENSTER, OPWASBAK	12
4	ARSERING	5
5	BYSKRIFTE	1
SUBTOTAAL		37

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF DETAIL	11
2	FOUNDATIONS, WALLS, FLOOR	8
3	DOOR, WINDOW, SINK	12
4	HATCHING	5
5	LABELS	1
SUBTOTAL		37



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