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**NATIONAL SENIOR CERTIFICATE
NASIONALE SENIOR SERTIFIKAAT**

**GRADE 12
GRAAD 12**

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

**SEPTEMBER 2022
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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PAPER 1
QUESTION 1: ANALYTICAL
 Gr. 12
 SEPTEMBER 2022
 MARKING GUIDELINE

VRAESTEL 1
VRAAG 1: ANALITIES
 Gr. 12
 SEPTEMBER 2022
 NASIENRIGLYN

QUESTION 1 ANSWERS		
1	MLANDWA ARCHITECS	1
2	MRS DLAYEDWA	1
3	SITE- 121A-22	1
4	1,2 metres	1
5	THE WORKSHOP MUST BE DEMOLISHED	2
6	WATER METER	1
7	4	1
8	PALISADE FENCING	1
9	RED	1
10	THREE	1
11	TWO	1
12	13 mm CRUSHED STONE	1
13	SOUTH EAST	2
14	42,2 - 16 = 26.2 m	2
15	CALCULATION BELOW	3
16	CALCULATION BELOW	5
17	SKETCH BELOW	4
TOTAL		29

VRAAG 1 ANTWOORDE		
1	MLANDWA ARGITEKTE	1
2	MEV. DLAYEDWA	1
3	SITE- 121A-22	1
4	1,2 meter	1
5	DIE WERKSWINKEL MOET GESLOOP / AFGEBREEK WORD	2
6	WATERMETER	1
7	4	1
8	PALISADE-HEINING	1
9	ROOI	1
10	DRIE	1
11	TWEE	1
12	13 mm FYN KLIP	1
13	SUID-OOS	2
14	42,2 - 16 = 26.2 m	2
15	BEREKENINGE ONDER	3
16	BEREKENINGE ONDER	5
17	SKETS ONDER	4
TOTAAL		29

VRAAG / QUESTION 15

Toon alle berekeninge / Show all calculations

calculation: (+)(-) correct values correct answer correct unit	$S + S + S$ $28 + 22,4 + 22,4$ $= \underline{72,8 \text{ m}}$	berekening: (+)(-) korrekte waardes korrekte antwoord korrekte eenheid
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[3]

VRAAG / QUESTION 16

Toon alle berekeninge / Show all calculations

(L x B) - (L x B) + (L x B) 31,3 x 9,6 = 300,48 5,2 x 3,8 = - 19,76 = <u>280,72</u> 3,4 x 2,7 = + 9,18 = <u>289,9 m²</u>	subtract BL correct values Multiply correct answer correct unit m ²	aftrek van BL korrekte waardes Vermenigvuldig korrekte antwoord korrekte eenheid m ²
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[5]

VRAAG / QUESTION 17

Vryhand
Freehand

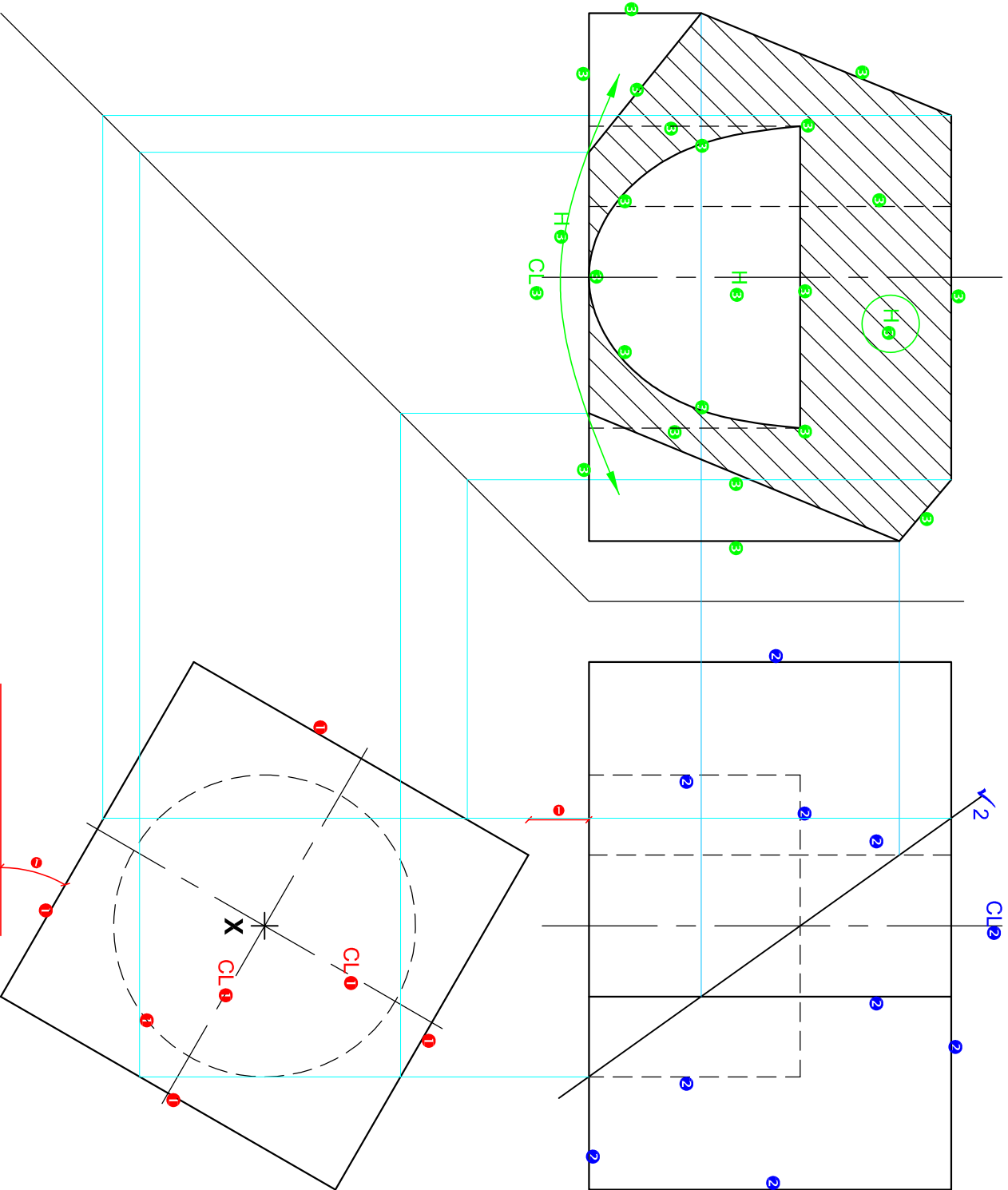
[4]

PAPER 1 - QUESTION 3: SOLID GEOMETRY
Gr. 12
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VRAESTEL 1 - VRAAG 3: VASTE LIGGAME
Gr. 12
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ASSESSERINGSKRITERIA	
1	BOAANSIG 4 ½
2	VOORAANSIG 6
3	REGTERAANSIG 12
4	WARE VORM 8 ½
TOTAAL 31	

ASSESSMENT CRITERIA	
1	TOP VIEW 4 ½
2	FRONT VIEW 6
3	RIGHT VIEW 12
4	TRUE SHAPE 8 ½
TOTAL 31	



PAPER 1 - QUESTION 3: SOLID GEOMETRY

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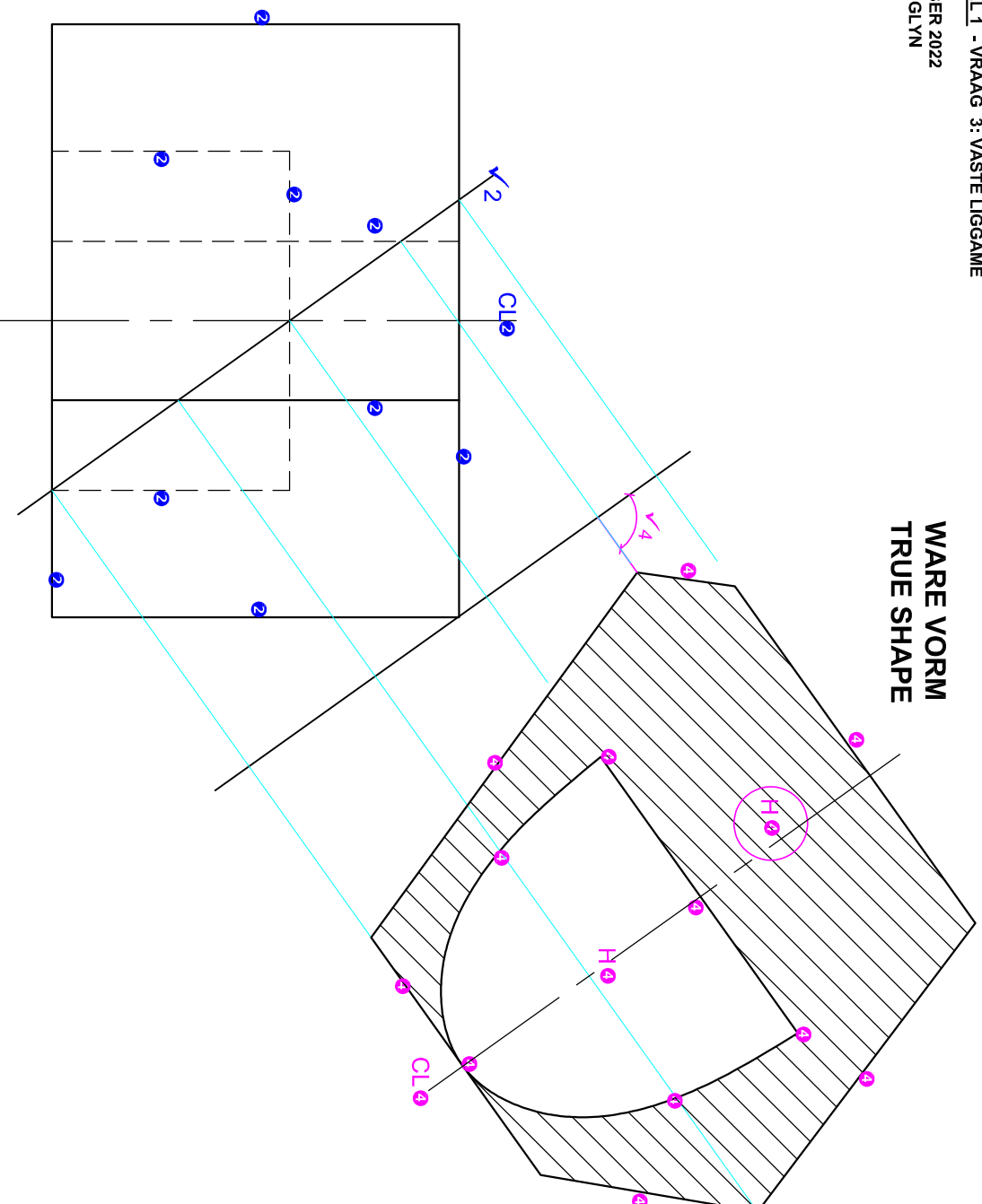
VRAESTEL 1 - VRAAG 3: VASTE LIGGAME

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**WARE VORM
TRUE SHAPE**

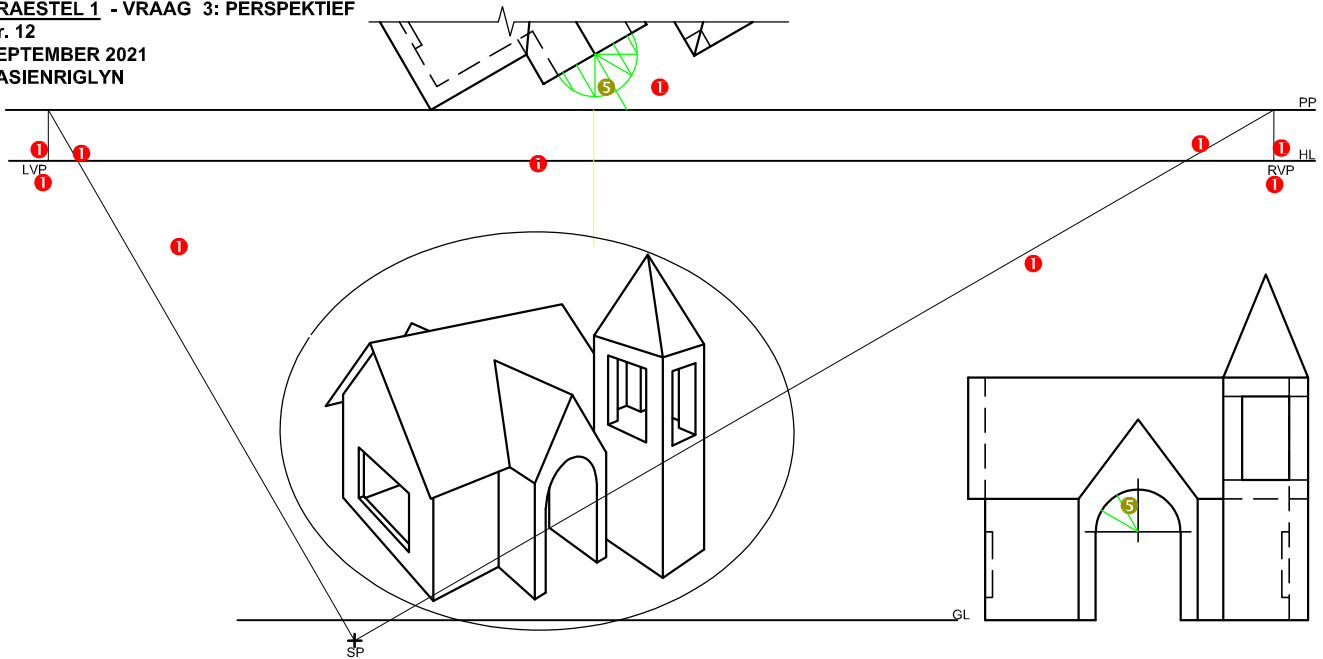


ASSESSERINGSKRITERIA	
1	BOAANSIG 4 $\frac{1}{2}$
2	VOORAANSIG 6
3	REGTERAANSIG 12
4	WARE VORM 8 $\frac{1}{2}$
TOTAAL 31	

ASSESSMENT CRITERIA	
1	TOP VIEW 4 $\frac{1}{2}$
2	FRONT VIEW 6
3	RIGHT VIEW 12
4	TRUE SHAPE 8 $\frac{1}{2}$
TOTAL 31	

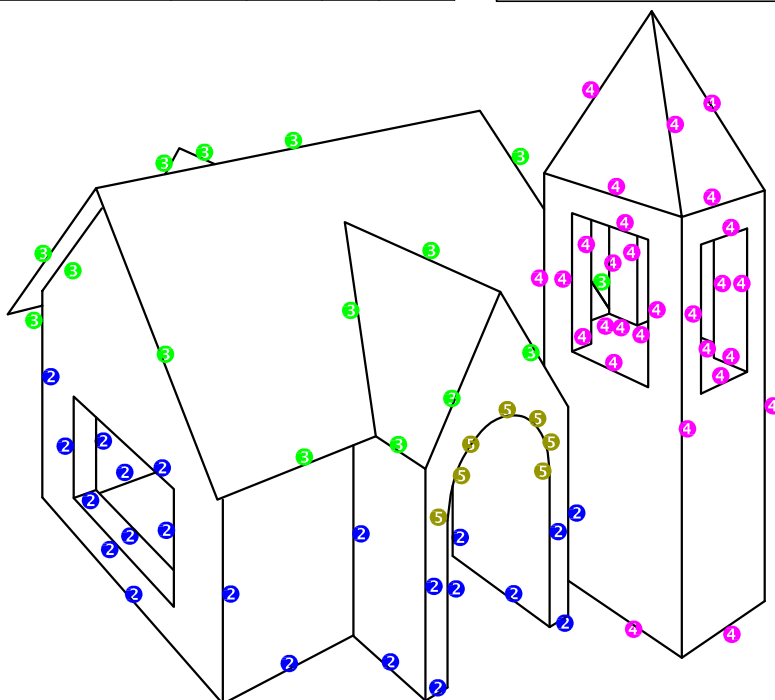
PAPER 1 - QUESTION 3: PERSPECTIVE
 Gr. 12
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VRAESTEL 1 - VRAAG 3: PERSPEKTIEF
 Gr. 12
 SEPTEMBER 2021
 NASIENRIGLYN



ASSESSMENT CRITERIA				
1	CONSTRUCTION AND VP's	5		
2	WALLS + WINDOW	11		
3	ROOF	7 1/2		
4	TOWER	14		
5	ARCH AND CONSTRUCTION	4 1/2		
TOTAL		42		

ASSESSERINGSKRITERIA				
1	KONSTRUKSIE EN VP'te	5		
2	MURE + VENSTER	11		
3	DAK	7 1/2		
4	TORING	14		
5	BOOG EN KONSTRUKSIE	4 1/2		
TOTAAL		42		

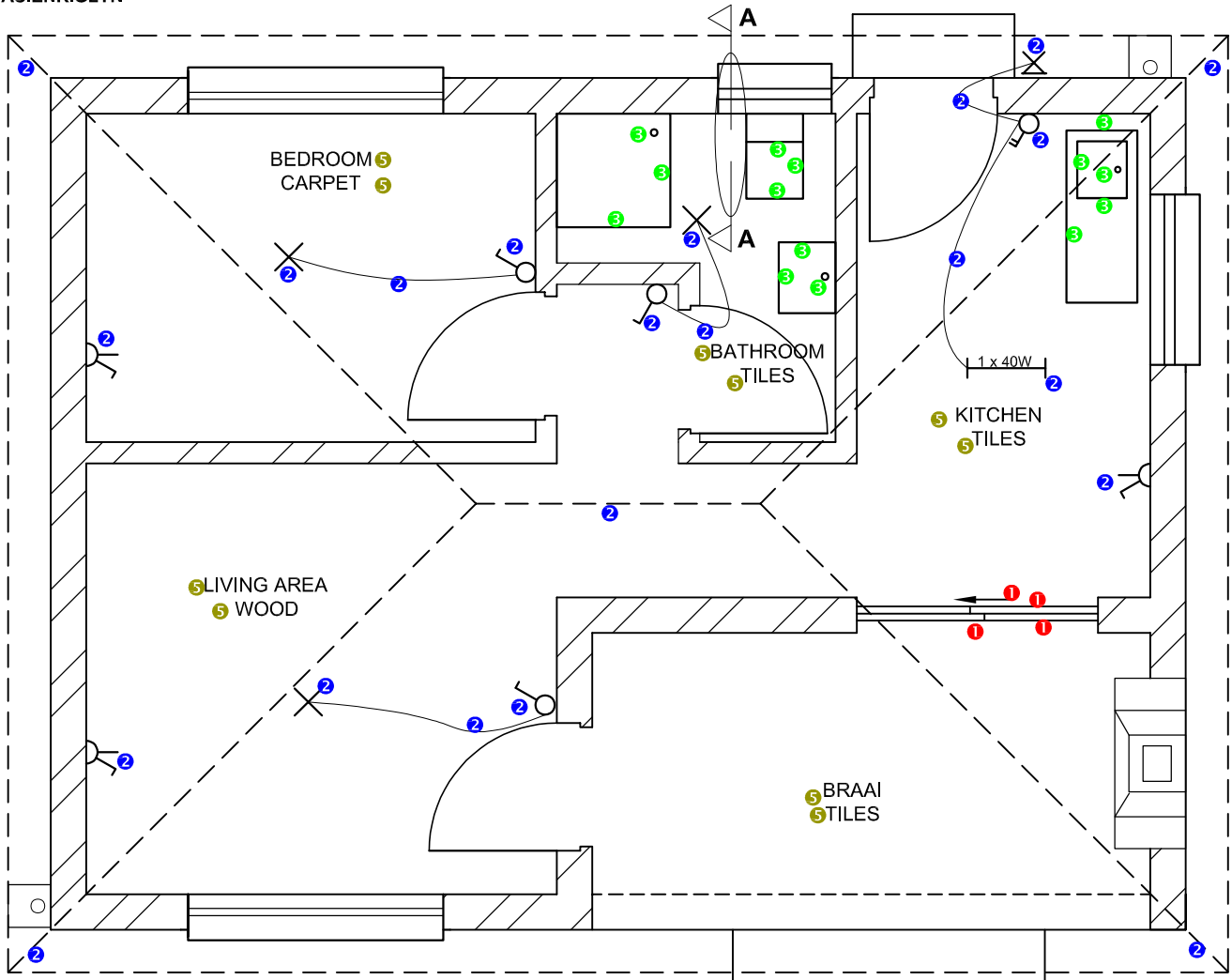


PAPER 1 - QUESTION 4: FLOOR PLAN

Gr. 12
 SEPTEMBER 2022
 MARKING GUIDELINE

VRAESTEL 1 - VRAAG 4: VLOERPLAN

Gr. 12
 SEPTEMBER 2022
 NASIENRIGLYN



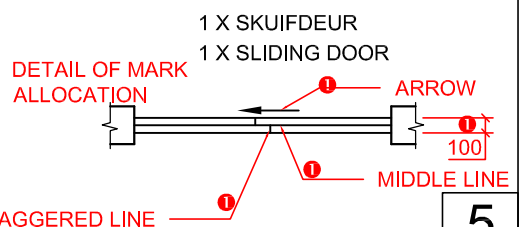
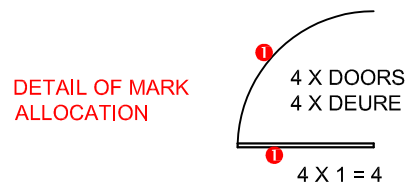
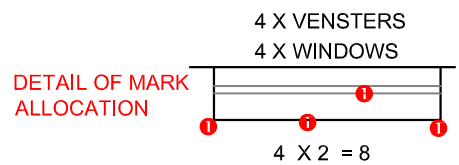
**FLOOR PLAN
 SCALE 1 : 50**

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 + WINDOWS	14
2	ELECTRICAL + ROOF LINES	11
3	FIXTURES	7
4	HATCHING	3
5	LABELS	5
SUBTOTAL		40

ASSESSERINGSKRITERIA		
VLOERPLAN		
1	DEURE + VENSTERS	14
2	ELEKTRIES + DAKLYNE	11
3	TOEBEHORE	7
4	ARSERING	3
5	BYSKRIFTE	5
SUBTOTAAL		40

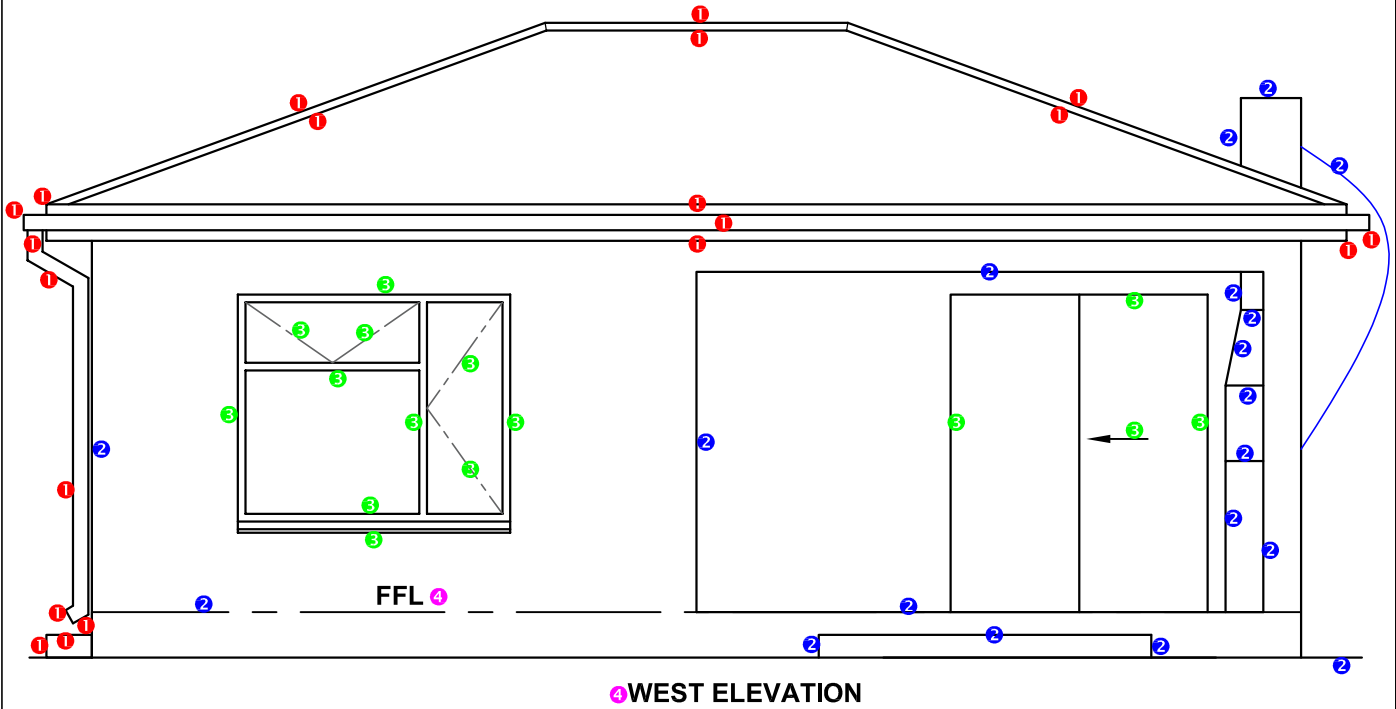


PAPER 1 - QUESTION 4: ELEVATION

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VRAESTEL 1 - VRAAG 4: ELEVASIE

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ASSESSERINGSKRITERIA		
NOORDAANSIG		
1	DAK, GEUT, RWAP, DREINPUT, FASSIE, VORS	10
2	MURE, STOEP, BRAAI, VVV	9 1/2
3	DEUR EN VENSTER	7 1/2
4	BYSKRIFTE	1
SUBTOTAAL		28

ASSESSMENT CRITERIA		
NORTH ELEVATION		
1	ROOF, GUTTER, RWDP, GULLEY FACIA BOARD, RIDGE COVER	10
2	WALLS, PORCH, BRAAI, FFL	9 1/2
3	DOOR AND WINDOW	7 1/2
4	LABELS	1
SUBTOTAL		28

PAPER 1 - QUESTION 4: SECTION

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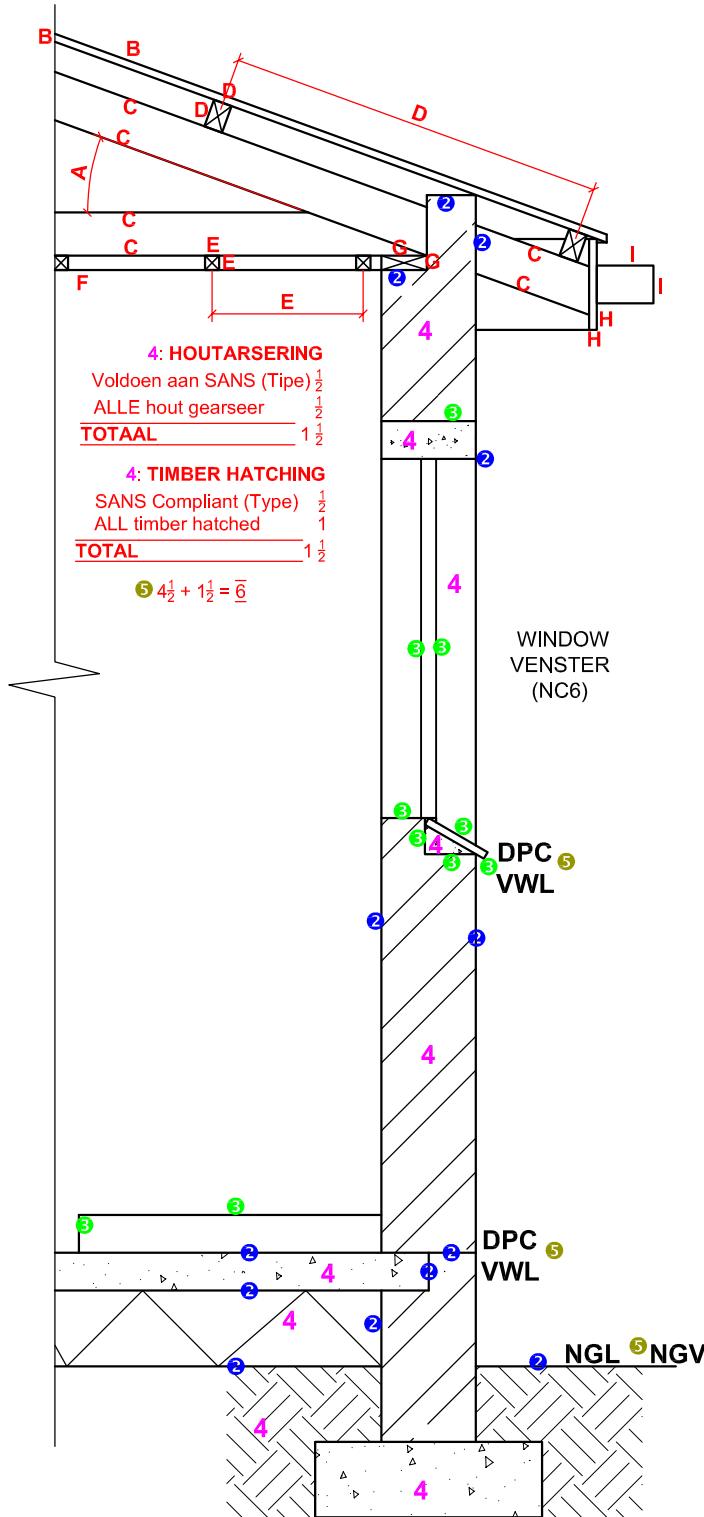
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VRAESTEL 1 - VRAAG 4: DEURSNEE

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4: HOUTARSERING
 Voldoen aan SANS (Tipe) $1\frac{1}{2}$
 ALLE hout gearseer $1\frac{1}{2}$
TOTAAL $1\frac{1}{2}$

4: TIMBER HATCHING
 SANS Compliant (Type) $1\frac{1}{2}$
 ALL timber hatched 1
TOTAL $1\frac{1}{2}$

$5\ 4\frac{1}{2} + 1\frac{1}{2} = 6$

WINDOW
 VENSTER
 (NC6)

DPC
 VWL

DPC
 VWL

NGL
 NGV

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

ROOF DETAIL: MARK ALLOCATION DAKBESONDERHEDE: PUNTETOEKENNING		
A	ROOF ANGLE DAKHELLING	$1\frac{1}{2}$
B	ROOF SHEET DAKPLAAT	1
C	ROOF TRUSS DAKKAP	3
D	PURLIN + SPACING DAKLAT + SPASIE	$1\frac{1}{2}$
E	BRANDERING + SPACING PLAFONLAT EN SPASIE	$1\frac{1}{2}$
F	CEILING BOARD PLAFON	$\frac{1}{2}$
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	$6\frac{1}{2}$
3	VENSTER + LATEI + STORT	5
4	ARSERING	6
5	BYSKRIFTE	$1\frac{1}{2}$
SUBTOTAAL		30

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF DETAIL	11
2	FOUNDATIONS + WALLS + FLOOR	$6\frac{1}{2}$
3	WINDOW + LINTEL + SHOWER	5
4	HATCHING	6
5	LABELS	$1\frac{1}{2}$
SUBTOTAL		30