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**SA EXAM
PAPERS**



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

ENGINEERING GRAPHICS AND DESIGN P1

2022

MARKS: 100

These marking guidelines consist of 7 pages.

ANSWERS		
1	884939	1
2	1 : 1300	1
3	PROJECT NUMBER	1
4	MULLER ARCHITECTS	1
5	DIRECTION OF OPENING	1
6	RODDING EYE	1
7	2000	1
8	BUILDING LINE	1
9	SEWERAGE LINE	1
10	MUST BE DEMOLISHED/REMOVED	1
11	BRICK PAVING	1
12	ELECTRICITY METER / WATT METER	1
13	PARKING FOR DISABLED PEOPLE	1
14	18,28	2
15	YELLOW	1
16	18	2
17	SOUTH EAST	2
18	See below	3
19		3
20		4
TOTAL		30

ANSWER 18
 Show ALL calculations.
 APPLYING CORRECT FORMULA ✓

$$P = AB + BC + CD + DE + EF + FG + GA$$

$$= 117,7 + 13,7 + 115,1 + 8,3 + 88,3 + 39,7 + 102,8$$

$$= 485,6 \checkmark \text{ m}$$

ANSWER IN METRES ✓

ANSWER 19
 Show ALL calculations.
 APPLYING CORRECT FORMULA ✓

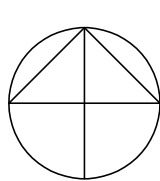
$$A = (15,4 \times 24,5) + (39,1 \times 48,0) + (6,0 \times 27,9)$$

$$= 377,3 + 1876,8 + 167,4$$

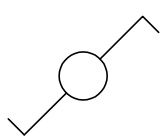
$$= 2421,5 \checkmark \text{ m}^2 \checkmark$$

ANSWER 20

20.1



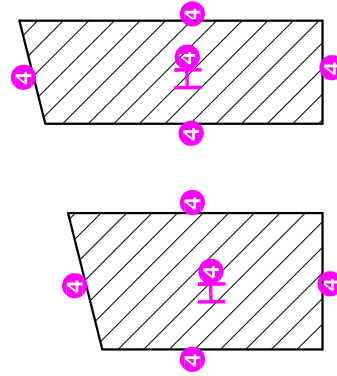
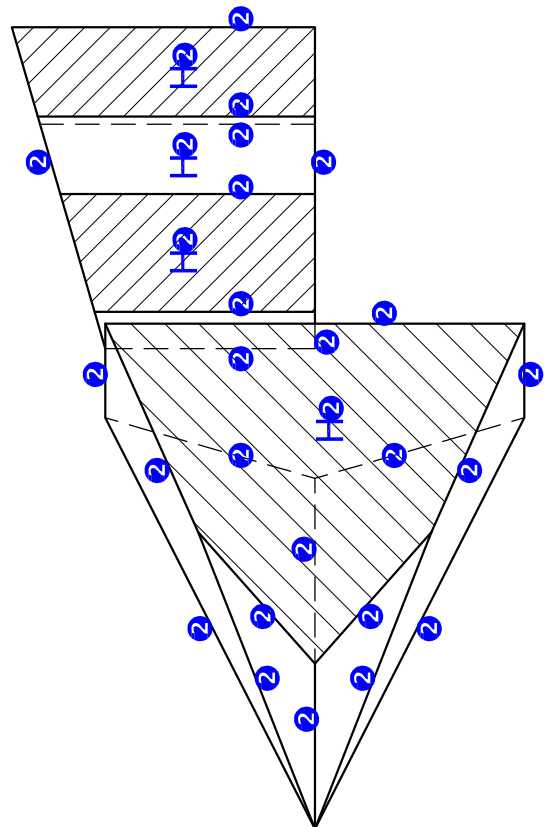
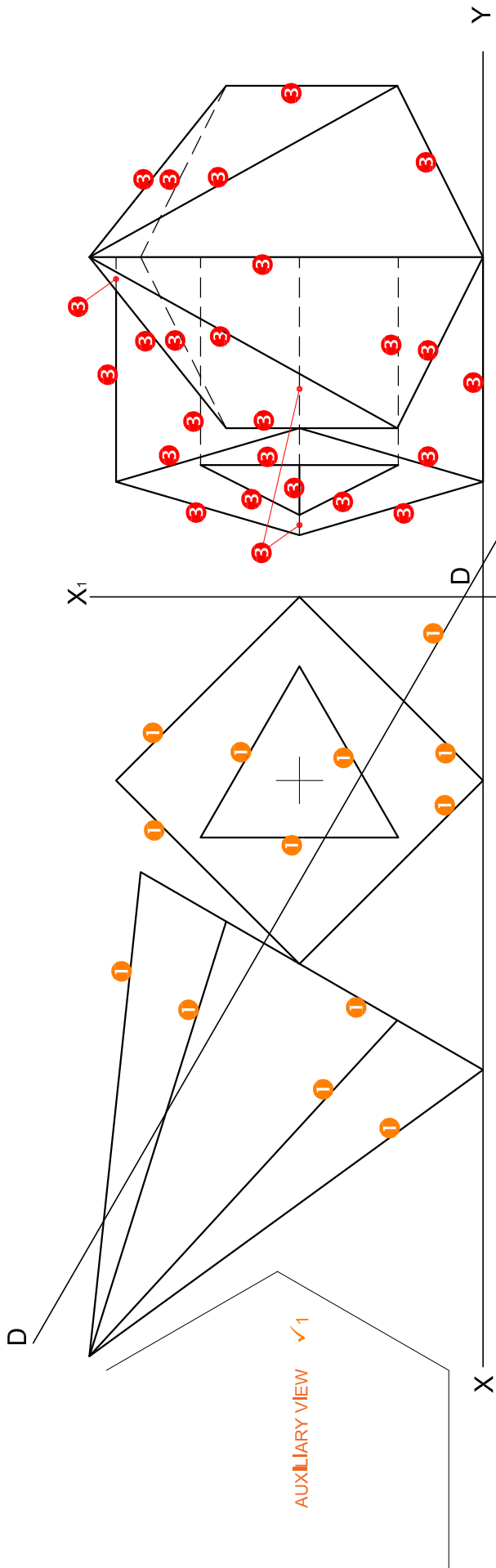
20.2



20.1 NORTH POINT
 CIRCLE 0.5
 VERTICAL LINE 0.5
 HORIZONTAL LINE 0.5
 ANGLED LINES 0.5

20.2 TWO-WAY SWITCH
 CIRCLE 0.5
 SWITCH ON ONE SIDE 0.5
 SWITCH ON OTHER SIDE 0.5

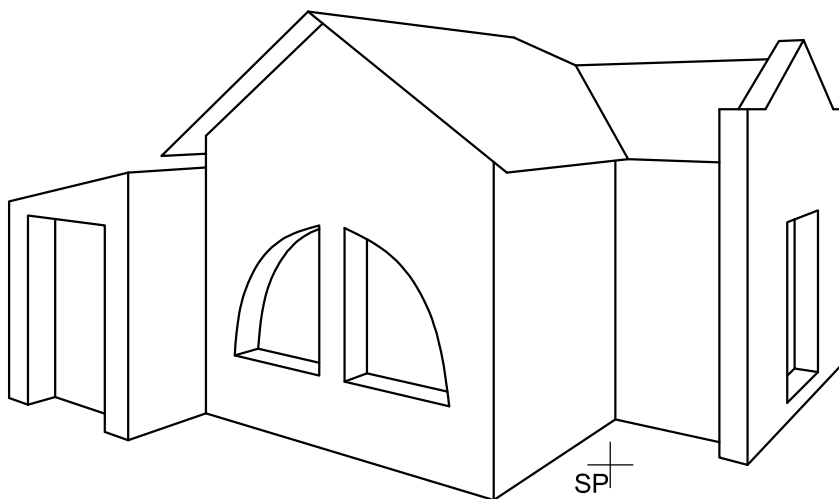
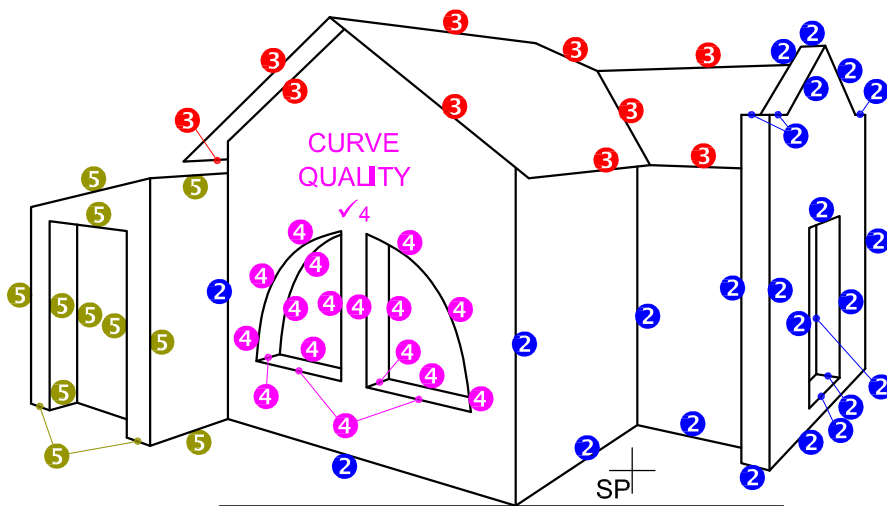
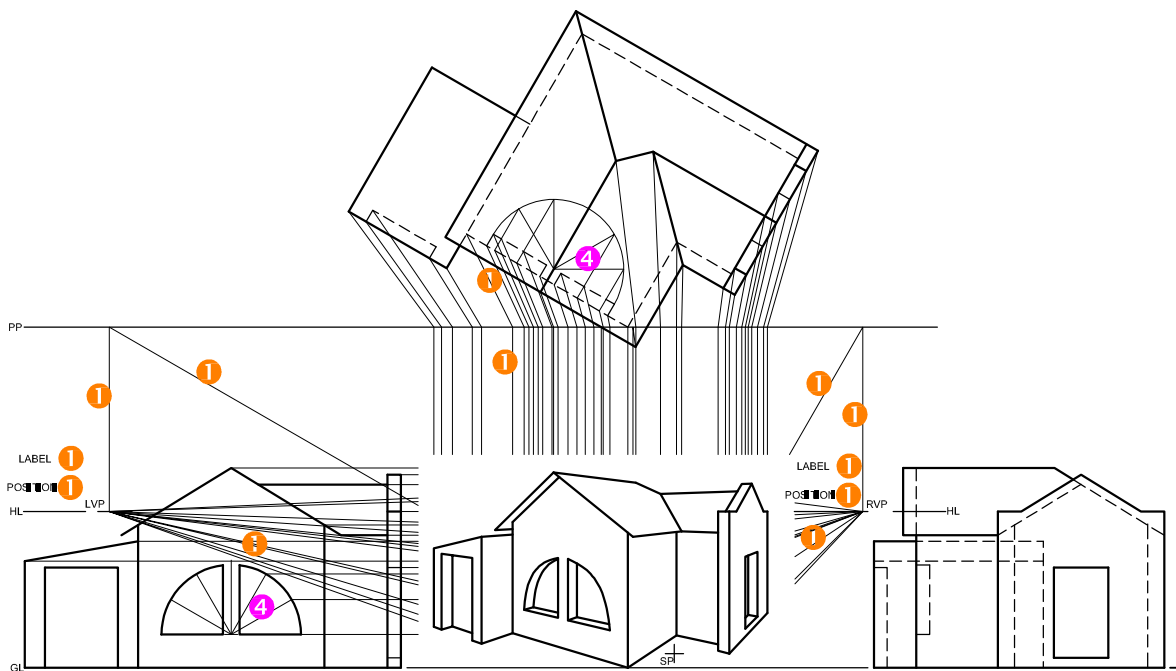
20.1 + 20.2 IN FREEHAND 0.5



4. TRUE SHAPE
ANY RECOGNIZED METHOD ✓4

ASSESSMENT CRITERIA		
1	FRONT VIEW	7 ½
2	SECTIONED TOP VIEW	14
3	LEFT VIEW	12 ½
4	TRUE SHAPE	6
TOTAL		40

PAPER 1 QUESTION 2
GRADE 12
2022
MARKING GUIDELINES



ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALLS	11 1/2
3	ROOF	5
4	WINDOWS	10
5	GARAGE	5 1/2
TOTAL		38

PAPER 1 QUESTION 3
 GRADE 12
 2022
 MARKING GUIDELINES

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

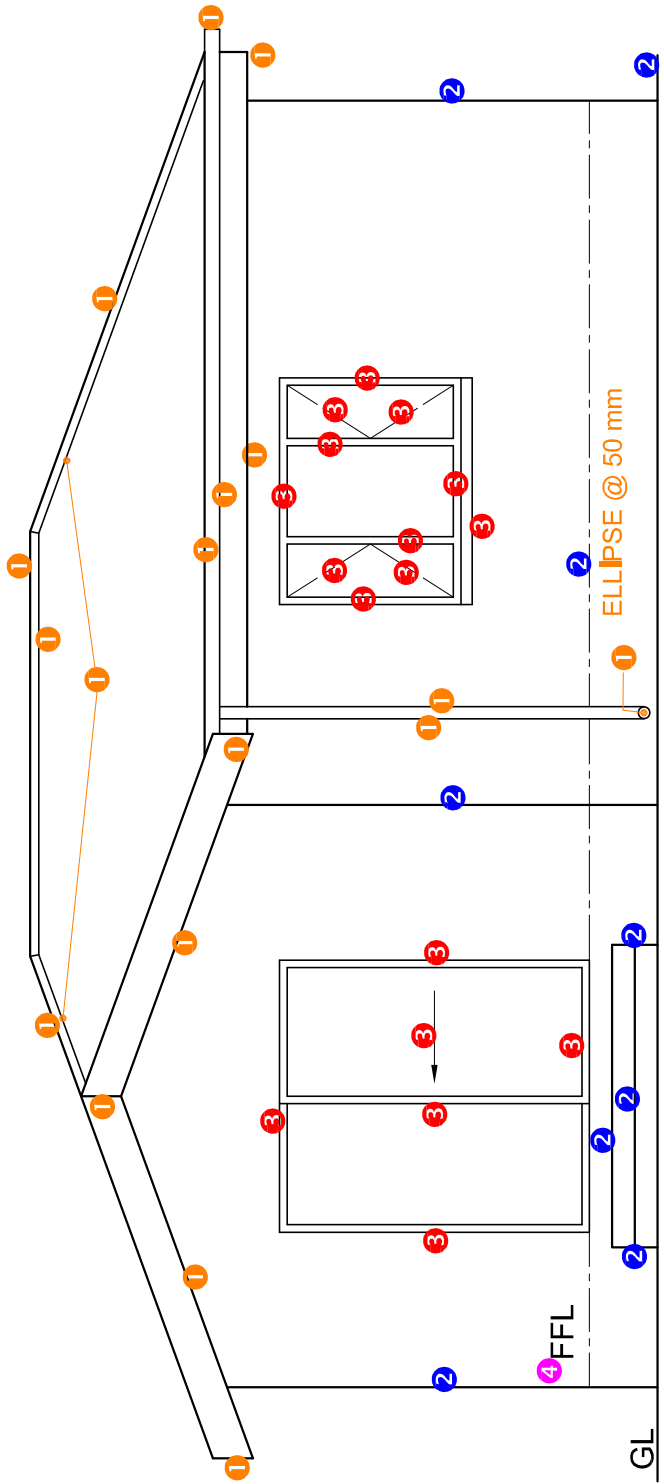
DETAIL OF MARK ALLOCATION FOR A DOOR (1 x 3 doors = 3)

4 HATCHING ALLOCATION
 SANS COMPLIANT (TYPE) 1
 HATCHING CORRECTLY APPLIED 2
 TOTAL 3

FLOOR PLAN
 SCALE 1 : 50

ASSESSMENT CRITERIA		
FLOOR PLAN		
	POSSIBLE	
1	DOORS + WINDOWS	11
2	FIXTURES	9
3	ELECTRICAL	9 1/2
4	HATCHING	3
5	LABELS	2
SUBTOTAL		34 1/2

PAPER 1 QUESTION 4
 GRADE 12
 2022
 MARKING GUIDELINES



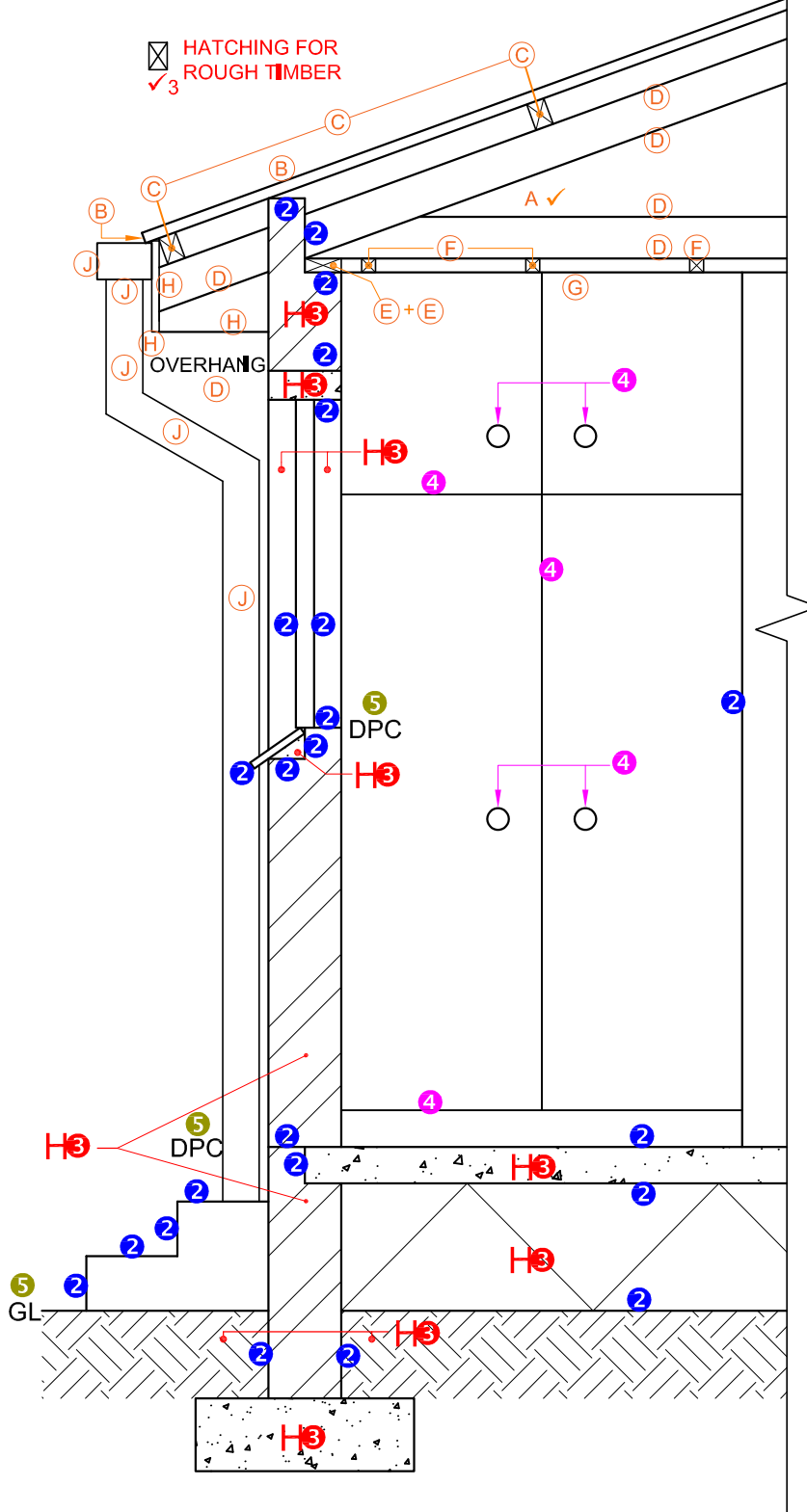
4 SOUTH-WEST ELEVATION

ASSESSMENT CRITERIA	
SOUTH-WEST ELEVATION	
1	ROOF + RWDP 9 1/2
2	WALLS + STEP + FFL 4 1/2
3	DOOR + WINDOW 8 1/2
4	LABELS 1
SUBTOTAL	23 1/2

PAPER 1 QUESTION 4
 GRADE 12
 2022
 MARKING GUIDELINES

1. MARK ALLOCATION FOR ROOF

A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN + SPACING	1.5
D: TRUSS + OVERHANG	3
E: WALL PLATE	1
F: BRANDING + SPACING	1
G: CEILING BOARD	0.5
H: FACIA	1.5
J: GUTTER + RWDP	2.5
TOTAL	13



SECTION A-A
SCALE 1 : 20

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF DETAIL	13
2	SLAB + WALL + WINDOW + STEP	11 1/2
3	HATCHING	5 1/2
4	BIC	2 1/2
5	LABELS	1 1/2
SUBTOTAL		34

PAPER 1 QUESTION 4
GRADE 12
2022
MARKING GUIDELINES