basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

ENGINEERING GRAPHICS AND DESIGN P1
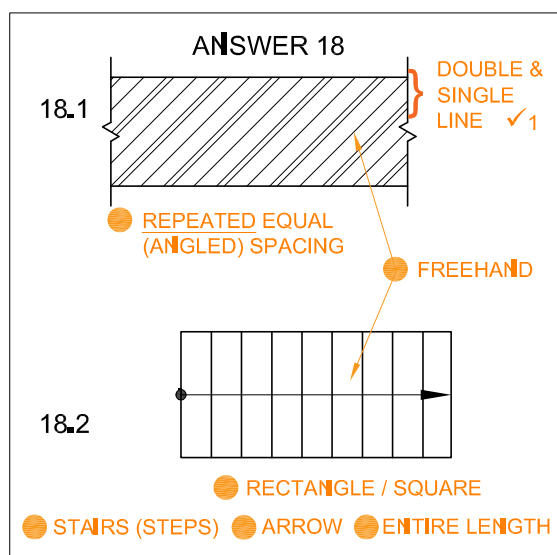
NOVEMBER 2022

MARKING GUIDELINES

MARKS: 100

These marking guidelines consist of 8 pages.

ANSWERS

1	PROJECT NUMBER	1
2	MR N KEENAN	1
3	SITE PLAN	1
4	PRINTING	1
5	LISA B	1
6	15000	1
7	ARCHITECT and CLIENT / MR N KEENAN	2
8	2	1
9	RAINWATER DOWN-PIPE	1
10	E / SOUTH / TOP LEFT	1
11	4,57	1
12	NEW ✓ IRON / STEEL ✓	2
13	NORTH POINT	1
14	SWING / OPENING OF THE GATES	1
15	WATT METER / ELECTRICAL METER	1
16	FALL / GRADIENT / SLOPE / DROP	1
17	SOUTH WEST / SW	2
18		4
19	*See below*	3
20		3
	TOTAL	**30**

ANSWER 18

18.1 DOUBLE & SINGLE LINE ✓1

REPEATED EQUAL (ANGLED) SPACING

FREEHAND

18.2 RECTANGLE / SQUARE

STAIRS (STEPS)   ARROW   ENTIRE LENGTH

ANSWER 19
Show ALL calculations.

APPLYING CORRECT FORMULA   ✓

P = AB + BC + CD + DE

   = AB + BC + CD + DE (– GATE)
   = (24,23 + 8,37 + 18,38 + 31,2) – 3,6
   = 78,58 ✓   ANSWER IN METRES ✓

ANSWER 20
Show ALL calculations.

APPLYING CORRECT FORMULA   ✓

A = L x B

   = (10,8 x 6) + (13,2 x 6) + (6,7 x 6,7)
   = 64,8 + 79,2 + 44,89
   = 188,89 ✓ m^2

ANSWER IN SQUARE METRES AND m^2 SHOWN ✓

PAPER 1 QUESTION 1
GRADE 12
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MARKING GUIDELINES

ASSESSMENT CRITERIA		
1	FRONT VIEW	7
2	SECTIONAL TOP VIEW	12 $\frac{1}{2}$
3	SECTIONAL RIGHT VIEW	10
	SUBTOTAL	29 $\frac{1}{2}$

CONSTRUCTION
SQUARE @ 45° √1

CONSTRUCTION
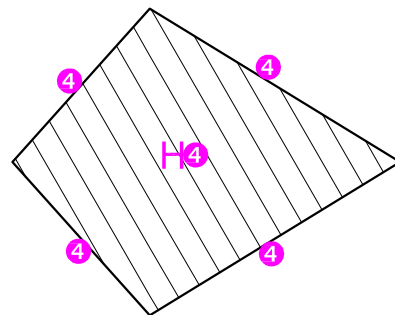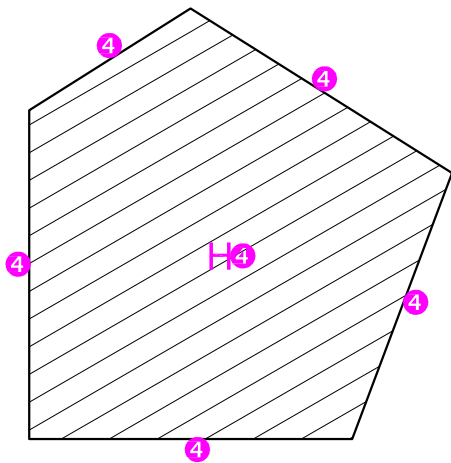SIZE   37 mm √2
SHAPE 72° √2

PAPER 1 QUESTION 2
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MARKING GUIDELINES

Turn over for true shape

TRUE SHAPE
ANY RECOGNISED METHOD ✓4

5. NOTE ON CORRECT HATCHING
DIFFERENT DIRECTIONS ✓5

ASSESSMENT CRITERIA		
4	TRUE SHAPE	$6\frac{1}{2}$
5	CORRECT HATCHING	1
SUBTOTAL		$7\frac{1}{2}$

PAPER 1 QUESTION 2
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MARKING GUIDELINES

RVP

PP

HL

GL

SP

5

SP

CURVE QUALITY ✓5

LVP

ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALL + BASE	$10\frac{1}{2}$
3	WINDOWS + OPENING	10
4	ROOF	$7\frac{1}{2}$
5	ARC	7
	TOTAL	41

PAPER 1 QUESTION 3
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MARKING GUIDELINES

ASSESSMENT CRITERIA		POSSIBLE
FLOOR PLAN		
1	DOORS + WINDOWS	11
2	FIXTURES + ROOF LINES	15
3	ELECTRICAL	10
4	HATCHING	3
5	LABELS	3
	SUBTOTAL	**42**

RWDP

LAUNDRY
TILES **5**

STUDY
CARPET **5**

KITCHEN
TILES **5**

2 × 40 W

BATHROOM
TILES **5**

LIVING ROOM
WOOD **5**

BEDROOM
CARPET **5**

A

A

RWDP

ROOF LINE

DETAIL OF MARK ALLOCATION FOR A DOOR (1 × 5 doors = 5)

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

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

FLOOR PLAN
SCALE 1 : 50
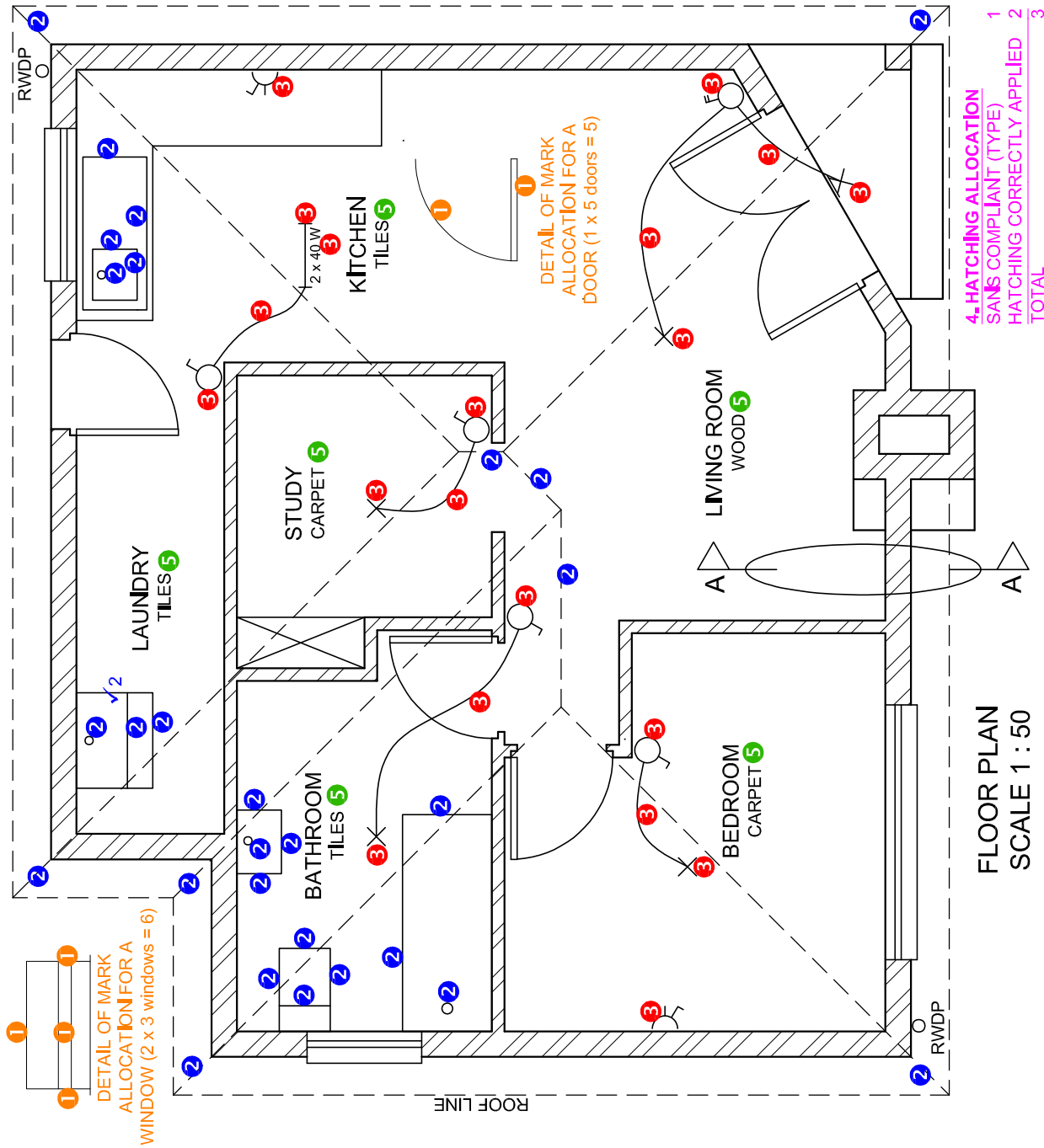
PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2022
MARKING GUIDELINE
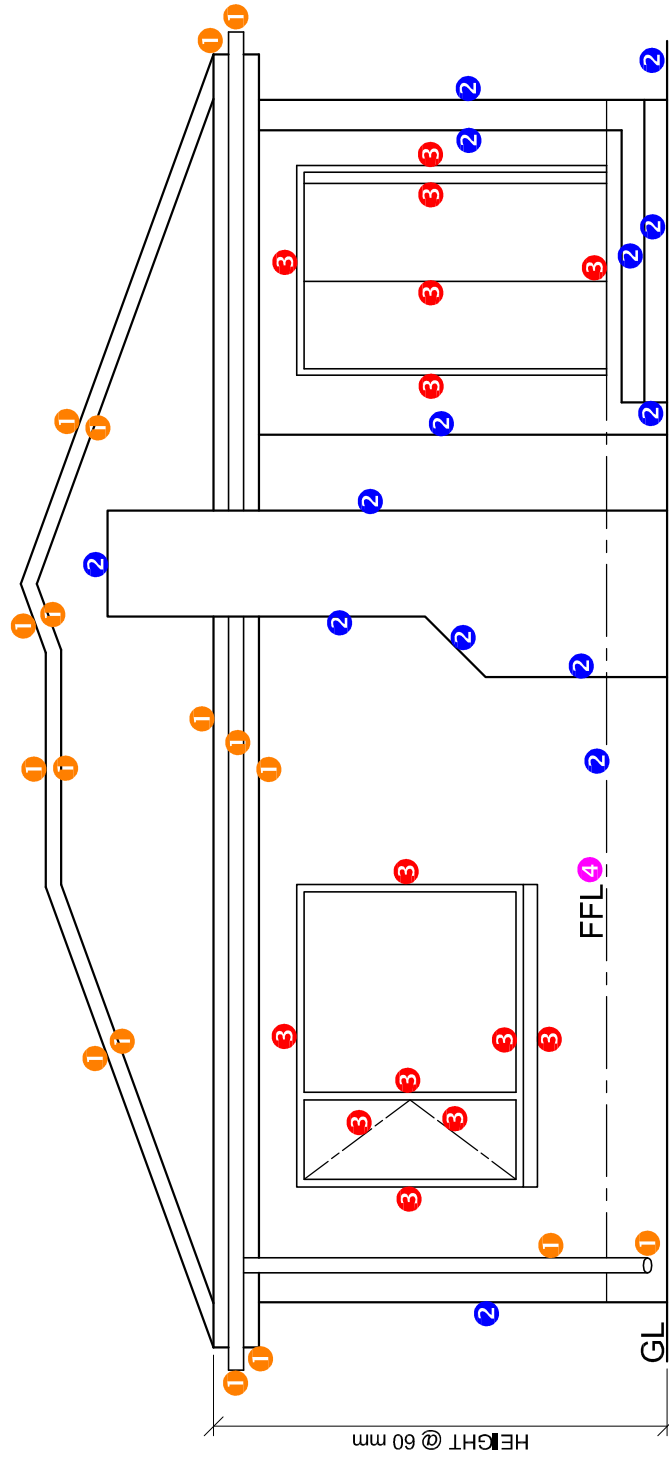
ASSESSMENT CRITERIA			
SOUTH ELEVATION			$8\frac{1}{2}$
1	ROOF + RWDP	1	
2	WALLS + STEP + CHIMNEY + FFL	7	
3	DOOR + WINDOW	7	
4	LABELS	1	
SUBTOTAL			$23\frac{1}{2}$

SOUTH ELEVATION

FFL

GL

HEIGHT @ 60 mm

PAPER 1 QUESTION 4
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MARKING GUIDELINE

1. MARK ALLOCATION FOR ROOF

A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN + SPACING	1,5
D: TRUSS + OVERHANG	3,5
E: FASCIA BOARD + GUTTER	2
F: WALL PLATE	1
G: BRANDERING + SPACING	1
H: CEILING BOARD	0,5
TOTAL	11,5

3. HATCHING FOR ROUGH TIMBER

SANS COMPLIANT (TYPE)	0,5
HATCHING CORRECTLY APPLIED	0,5
TOTAL	1

A✓

F✓

OVERHANG

DPC

GL
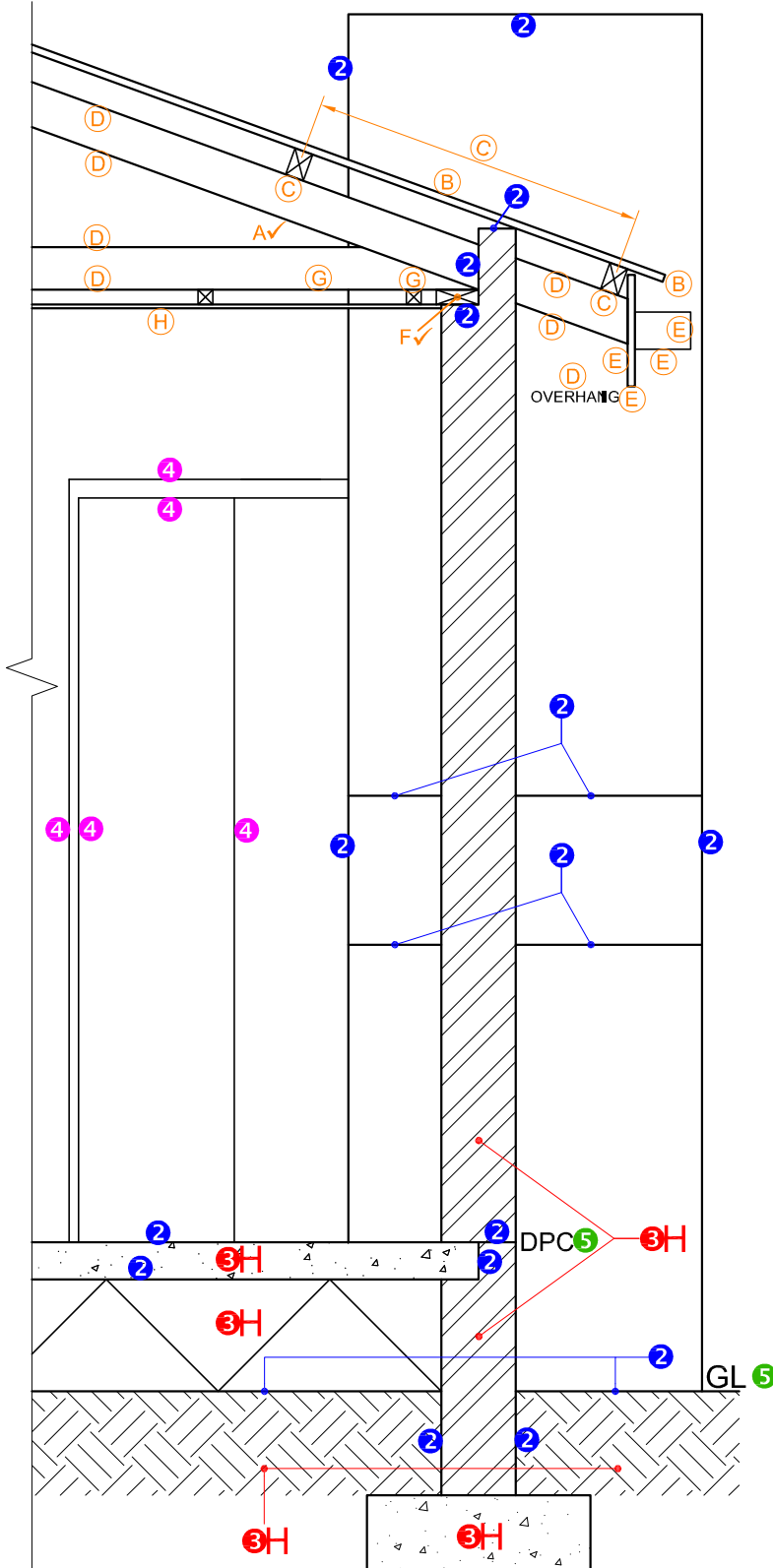
SECTION A-A

SCALE 1 : 20

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF DETAIL	$11\frac{1}{2}$
2	SLAB + WALL + CHIMNEY	8
3	HATCHING	$3\frac{1}{2}$
4	DOOR	$2\frac{1}{2}$
5	LABELS	1
SUBTOTAL		$26\frac{1}{2}$

PAPER 1 QUESTION 4
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