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LEARNER SUPPORT MATERIAL

GRADE 12 NSC

PAST QUESTIONS ON

PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS

PAPER 1

1. ANALYTICAL CIVIL
2. INTERPENETRATION AND DEVELOPMENT
3. PERSPECTIVE DRAWING
4. CIVIL DRAWING

GRADE 12 NSC

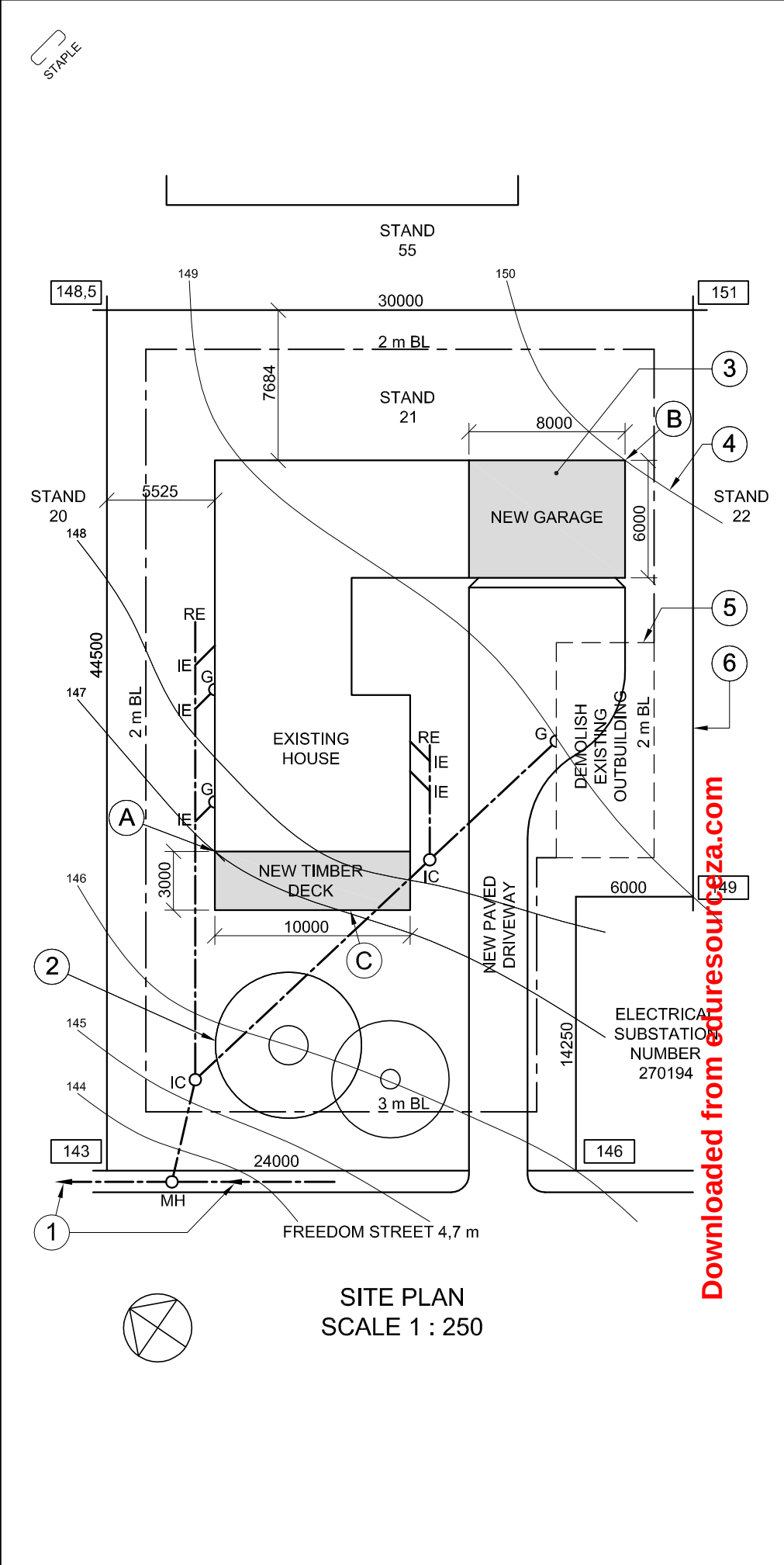
PAST QUESTIONS ON

ANALYTICAL CIVIL PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS



NOTE:
Contractors must verify all dimensions and levels on site before commencing work. Architects must be notified immediately of any discrepancies.

ARCHITECT'S SIGNATURE

CLIENT'S SIGNATURE

ANSWER 20
In the space below, draw, in neat freehand, the front view and top view of the SANS 10143 graphical symbol for a BATH.

1	2015-01-27	Add timber deck
REVISION	DATE	DESCRIPTION

KEY ARCHITECTS

96 Protea Street
POTCHEFSTROOM

083 130 2201
key@webmail.co.za

PRINTED BY ILM PRINTERS		DATE OF PRINT 2015-02-13	
DRAWING TITLE SITE PLAN			
PROJECT PROPOSED NEW GARAGE AND TIMBER DECK FOR MRS SCHUTTE ON STAND 21, FREEDOM STREET.			
PROJECT NUMBER AFSP-2015		DRAWING NUMBER VG 002	
DATE 2015-01-10	DRAWN AD	CHECKED BC	SCALE 1 : 250
REFERENCE CODE Q1P1N2015			

QUESTION 1: ANALYTICAL (CIVIL)

Given:
The site plan of a existing house with a proposed new garage and timber deck, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

Instructions:
Complete the table below by neatly answering the questions, which refer to the accompanying drawing and title panel. [30]

QUESTIONS		ANSWERS		
1	What is the project number?	1		
2	How many signatures are required?	1		
3	How many revisions have been made to the drawing?	1		
4	Who is the client?	1		
5	On what date was the site plan printed?	1		
6	How many new additions are indicated on the site plan?	1		
7	What does the abbreviation /C stand for?	1		
8	What is indicated by the arrows on the line at 1?	1		
9	Name the feature at 2.	1		
10	In what colour should the feature at 3 be shown?	1		
11	What does the line at 4 indicate?	1		
12	What does the broken line at 5 indicate?	1		
13	What is the length of the boundary line at 6 in metres?	1		
14	What is the width of Freedom Street in millimetres?	1		
15	What is the difference in ground level height between corner A and corner B of the buildings in metres?	2		
16	On which side of the existing house is the new timber deck?	2		
17	Which municipal service is found on the land adjacent to stand 21?	2		
18	In the space below, determine the perimeter of the existing house in metres.	3		
19	In the space below, determine the combined total area of the existing house and the new garage in square metres.	3		
20	In the space provided in the title panel, draw, in neat freehand, the front view and top view of the SANS 10143 graphical symbol for a BATH.	4		
		TOTAL 30		

ANSWER 18
Show ALL calculations.

ANSWER 19
Show ALL calculations.

EXAMINATION NUMBER	
EXAMINATION NUMBER	
2	

	ANSWERS	
1	AFSP-2015	1
2	2	1
3	1	1
4	MRS SCHUTTE	1
5	2015-02-13	1
6	2	1
7	INSPECTION CHAMBER	1
8	DIRECTION OF FLOW	1
9	TREE	1
10	RED	1
11	CONTOUR LINE	1
12	DEMOLISH/REMOVE	1
13	30,25 m	1
14	4 700 mm	1
15	3 m	2
16	SOUTH-WEST	2
17	ELECTRICAL SUBSTATION	2
18	72 m [calculation 1, answer 1, converted to metres 1]	3
19	248m ² [calculation 1, answer 1, metres ² 1]	3
20	See below	4

TOTAL 30

ANSWER 18
Show ALL calculations.

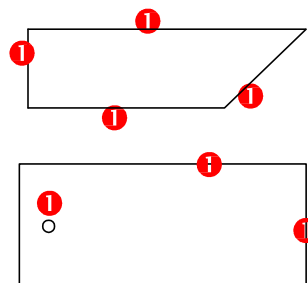
$$13 + 6 + 6 + 6 + 3 + 8 + 10 + 20 = 72 \text{ m}$$

ANSWER 19
Show ALL calculations.

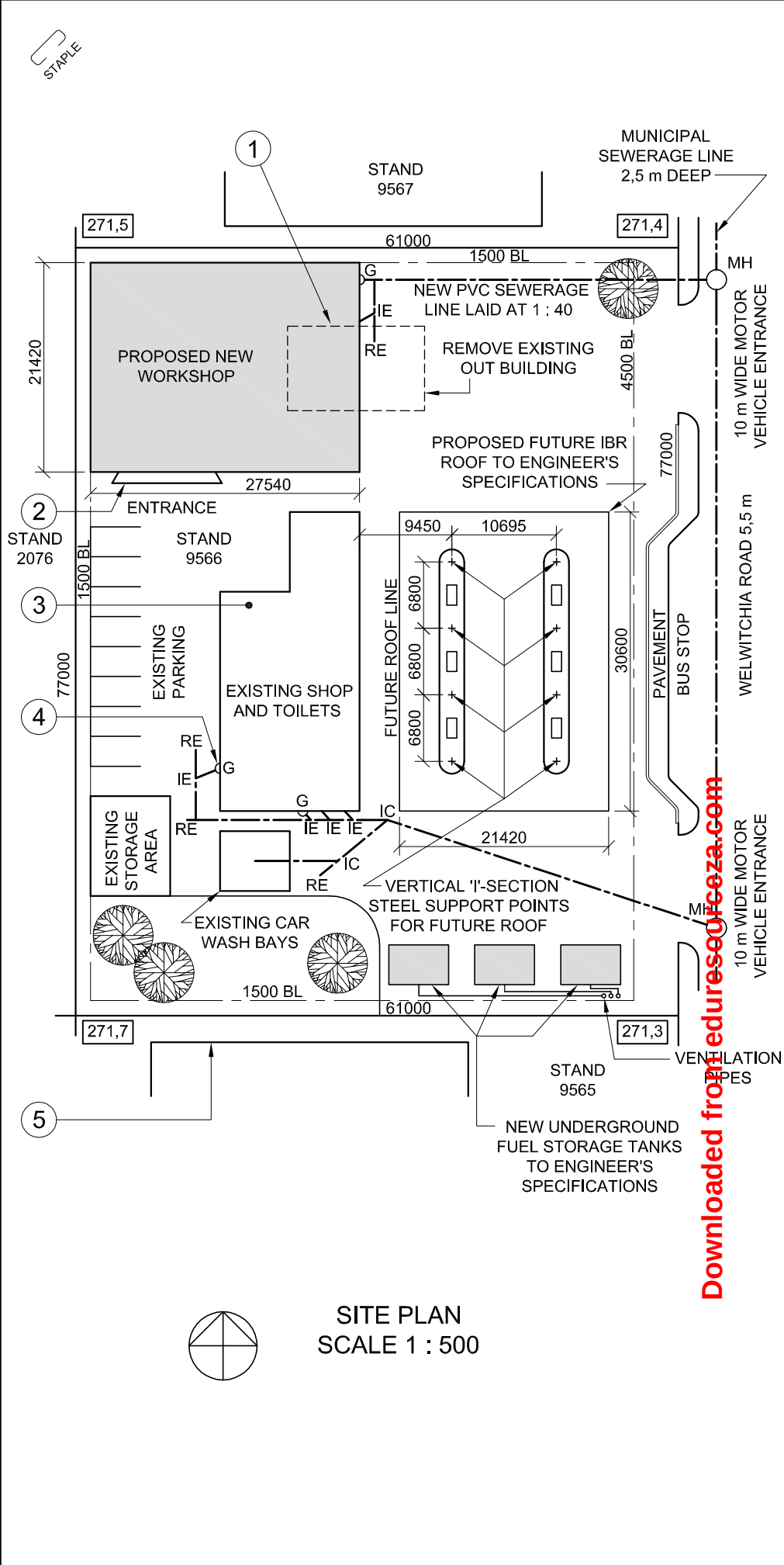
$$\begin{array}{rcl}
 13 \times 6 & = & 78 \\
 6 \times 7 & = & 42 \\
 10 \times 8 & = & 80 \\
 8 \times 6 & = & 48 \\
 \hline
 & & 248 \text{ m}^2
 \end{array}$$

20

FREEHAND ①



PAPER 1 QUESTION 1
GRADE 12
November 2015
MEMORANDUM



NOTE:
Contractors must verify all dimensions and levels on site before commencing work. Architects to be notified immediately of any discrepancies.

ARCHITECT'S SIGNATURE
CLIENT'S SIGNATURE

ANSWER 20
In the space below, draw, in neat freehand, the front view and top view of the *SANS 10143* graphical symbol for a SINGLE WALL-MOUNTED URINAL.

3	2015-08-30	Move vent pipes
2	2015-08-18	Replace fuel tanks
1	2015-08-06	Include new roof support points

REVISION	DATE	DESCRIPTION
3	2015-08-30	Move vent pipes
2	2015-08-18	Replace fuel tanks
1	2015-08-06	Include new roof support points

DIGITAL DRAWING
ARCHITECTS
17 SAFFRON DRIVE
GLENASHLEY
☎ 031 5836092

PRINTED BY
TIMELESS PRINTERS

DATE OF PRINT
2015-10-17

DRAWING TITLE
SITE PLAN

PROJECT
PROPOSED NEW WORKSHOP,
UNDERGROUND FUEL STORAGE TANKS
AND FUTURE ROOF FOR SA PETROLEUM
ON STAND 9566, WELWITCHIA ROAD

PROJECT NUMBER
SSA/FS/-2015

DRAWING NUMBER
TH 15-05-R4K/J

DATE
2015-09-04

DRAWN
TOM

CHECKED
HARRY

SCALE
1 : 500

REFERENCE CODE
1QP1-2015

QUESTION 1: ANALYTICAL (CIVIL)

Given:
The site plan of an existing service station with a proposed new workshop, underground fuel storage tanks and future roof, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

Instructions:
Complete the table below by neatly answering the questions, which refer to the accompanying drawing and title panel. [30]

QUESTIONS		ANSWERS	
1	How many signatures are required?	1	
2	What is the architectural firm's telephone number?	1	
3	What was the second revision?	1	
4	What is the width of Welwitchia Road in millimetres?	1	
5	What type of roof cover is proposed for the future roof?	1	
6	How many trees are shown?	1	
7	How many new underground fuel storage tanks are shown?	1	
8	What does the broken line at 1 indicate?	1	
9	Name the feature at 2.	1	
10	In what colour should new steel be indicated on a drawing?	1	
11	In what colour should the feature at 3 be shown?	1	
12	Name the feature at 4.	1	
13	Name the feature at 5.	1	
14	Which side of the existing shop and toilets faces Welwitchia Road?	2	
15	Give a reason why graphical symbols are used in drawings.	2	
16	What determines the size of a graphical symbol on a drawing?	1	
17	What is the height of the lowest corner of the stand in metres?	2	
18	In the space below, determine the perimeter of the existing shop and toilets in metres.	3	
19	In the space below, determine the total area of the existing shop and toilets in square metres.	3	
20	In the space provided in the title panel, draw, in neat freehand, the front view and top view of the <i>SANS 10143</i> graphical symbol for a SINGLE WALL-MOUNTED URINAL.	4	
TOTAL		30	

ANSWER 18
Show ALL calculations.

ANSWER 19
Show ALL calculations.

EXAMINATION NUMBER	
EXAMINATION NUMBER	
2	

	ANSWERS	
1	2	1
2	031 5836092	1
3	REPLACE FUEL TANKS	1
4	5 500	1
5	IBR	1
6	4	1
7	3	1
8	DEMOLISH/REMOVE	1
9	RAMP	1
10	BLUE	1
11	NO COLOUR	1
12	GULLEY	1
13	ADJACENT BUILDING/STRUCTURE	1
14	EAST	2
15	SPEED UP DRAWING PROCESS/ STANDARDISATION OF PRESENTATION	2
16	SCALE	1
17	271,3 m	2
18	82,28 m [calculation 1, answer 1, converted to metres 1]	3
19	318,2179 m ² [calculation 1, answer 1, metres ² 1]	3
20	See below	4

TOTAL: 30

ANSWER 18
Show ALL calculations.

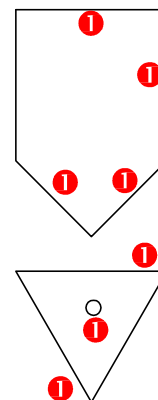
$$20,57 + 6,545 + 7,48 + 6,545 + 28,05 + 13,09 = 82,28 \text{ m}$$

ANSWER 19
Show ALL calculations.

$$(20,57 \times 13,09) + (6,545 \times 7,48) \\ 269,2613 + 48,9566 \\ 318,2179 \text{ m}^2$$

20

FREEHAND ①



PAPER 1 QUESTION 1
GRADE 12
Feb.-Mar.
MEMORANDUM

STAPLE

LAND SURVEYOR'S CERTIFICATE OF THE
BOUNDARY LENGTHS AND CORNER
HEIGHTS ON STAND 3.
SURVEYED ON 2015-05-06

BOUNDARY LENGTHS IN MILLIMETRES	CORNER HEIGHTS IN METRES
AB = 74569	A = 1780,6
BC = 116000	B = 1780,7
CD = 74569	C = 1779,7
DA = 116000	D = 1779,3

SITE PLAN

SCALE 1 : 800

NOTE:

- Contractors must verify all dimensions and levels on site before commencing work. Architects to be notified immediately of any discrepancies.
- All the houses are the same size.

ARCHITECT'S SIGNATURE

CLIENT'S SIGNATURE

ANSWER 20

In the space below, draw, in neat freehand, the front view and top view of the SANS 10143 graphic symbol for a BIDET.

REVISION	DATE	DESCRIPTION	
ON-THE-DOT ARCHITECTS PO BOX 2000 LEOPARD VALLEY 1012			
PRINTED BY NAT PRINTERS		DATE OF PRINT 2015/07/09	
DRAWING TITLE SITE PLAN			
PROJECT PROPOSED NEW HOUSING UNITS IN A SECURITY COMPLEX ON STAND 3, RHINO ROAD, OBSERVATION PARK			
PROJECT NUMBER 2015-RR-07		DRAWING NUMBER EP 3-01-2016	
DATE 2015/07/07	DRAWN WILLIAM	CHECKED VERNON	SCALE 1 : 800
REFERENCE CODE QV1-2016			

QUESTION 1: ANALYTICAL (CIVIL)

Given:
The site plan for proposed housing units in a security complex, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

Instructions:
Complete the table below by neatly answering the questions, which refer to the accompanying drawing and title panel.

QUESTIONS		ANSWERS	
1	How many signatures are required?	1	
2	Who prepared the drawing?	1	
3	What scale is indicated for the drawing?	1	
4	Who checked the drawing?	1	
5	Who was responsible for the printing of the site plan?	1	
6	How many times have the drawing been revised?	1	
7	When was the site surveyed?	1	
8	How many rodding eyes are shown on the site plan?	1	
9	What does the abbreviation IC stand for?	1	
10	In what colour should glass be indicated on a detailed drawing?	1	
11	Name the feature at 1.	1	
12	In what unit are the dimensions on the site plan?	1	
13	On what must the new paving be laid?	1	
14	What type of fence is proposed for the complex?	2	
15	What is indicated by the arrow at 2?	1	
16	Why would a residential development not be allowed on the land immediately south-west of STAND 3?	2	
17	Referring to the building regulations, why would this proposed site plan not be approved?	2	
18	In the space below (ANSWER 18), determine the length of the electric security fence in metres.	3	
19	In the space below (ANSWER 19), determine the combined total area of ALL the proposed buildings in square metres.	4	
20	In the space in the title panel (ANSWER 20), draw, in neat freehand, the front view and top view of the SANS 10143 graphic symbol for a BIDET.	3	
TOTAL		30	

ANSWER 18
Show ALL calculations.

ANSWER 19
Show ALL calculations.

EXAMINATION NUMBER

EXAMINATION NUMBER

2

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7

Please turn over

ANSWERS		
1	2	1
2	WILLIAM / "ON THE DOT ARCHITECTS"	1
3	1 : 800	1
4	VERNON	1
5	NAT PRINTERS	1
6	0 / NONE / NOT APPLICABLE	1
7	2015-05-06	1
8	2 / 3	1
9	INSPECTION CHAMBER	1
10	BLACK	1
11	CONTOUR LINE	1
12	MILLIMETRE / mm / METRIC	1
13	COMPACTED HARD CORE	1
14	ELECTRIC SECURITY FENCE	2
15	GATE OPENING DIRECTION	1
16	SERVITUDE	2
17	STOREROOM OVER BUILDING LINE	2
18	369,14 m [calculations 1, answer 1, metres 1]	3
19	2184 m ² [calculations 2, answer 1, metres ² 1]	4
20		3
TOTAL		30

ANSWER 18

Show ALL calculations.

$$\begin{aligned}
 L &= 2 (L + B) \\
 &= (2 \times 74569) + (2 \times 116000) \quad \checkmark 1 \\
 &= 149,138 + 232,000 \\
 &= 381,138 \\
 &= 381,138 - \text{GATE} \\
 &= 381,138 - 12,000 \\
 &= 369,138 \text{ of } 369,14 \quad \checkmark 1 \quad \checkmark 1
 \end{aligned}$$

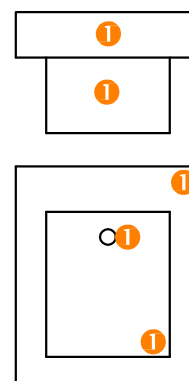
ANSWER 19

Show ALL calculations.

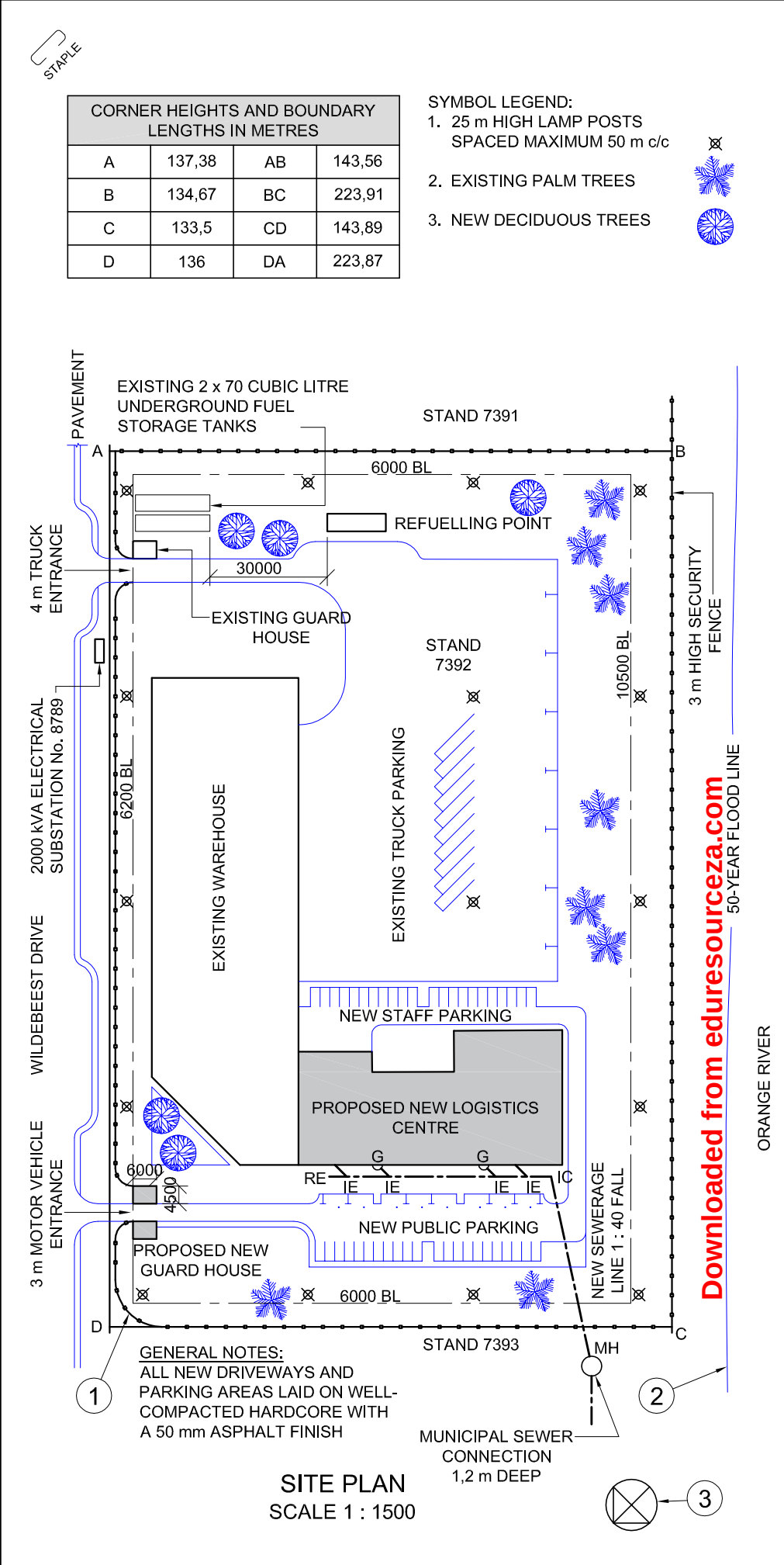
$$\begin{aligned}
 B A &= 9[(12,4 \times 20) - (4 \times 4)] + (12 \times 8) \quad \checkmark 1 \quad \checkmark 1 \\
 &= 9(248 - 16) + 96 \\
 &= 2088 + 96 \\
 &= 2184 \text{ m}^2 \quad \checkmark 1 \quad \checkmark 1
 \end{aligned}$$

ANSWER 20

FREEHAND ①



PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2016
MEMORANDUM



NOTE:
Contractors must verify all dimensions and levels on site before commencing work. Architects to be notified immediately of any discrepancies.

ARCHITECT'S SIGNATURE

CLIENT'S SIGNATURE

ANSWER 20

In the space below, draw, in neat freehand, the front view and top view of the SANS 10143 graphical symbol for a WASHTUB.

2	2017-01-09	Security lighting
1	2017-01-07	New staff parking
REVISION	DATE	DESCRIPTION

3D STUDIO
ARCHITECTS
1024 FOREST DRIVE
ISIPINGO
031 555 2792

PRINTED BY
FAST PRINT

DATE OF PRINT
2017-01-28

DRAWING TITLE
SITE PLAN

PROJECT
PROPOSED NEW LOGISTICS CENTRE AND GUARD HOUSE FOR RAGE INDUSTRIES ON PLOT 7392, RIVER HORSE INDUSTRIAL PARK, 28 WILDEBEEST DRIVE, ISIPINGO

PROJECT NUMBER SSA/FS/-2015		DRAWING NUMBER LF 5-10-BPK/N	
DATE 2017-01-05	DRAWN NM	CHECKED LUKE	SCALE 1 : 1500
REFERENCE CODE V1V1-2017			

QUESTION 1: ANALYTICAL (CIVIL)

Given:

The site plan of an existing warehouse with a proposed new logistics centre and guard house, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

Instructions:

Complete the table below by neatly answering the questions which refer to the accompanying drawing and title panel.

[30]

QUESTIONS		ANSWERS	
1	Who checked the drawing?	1	
2	What is the number of the stand?	1	
3	What is the number of the electrical substation?	1	
4	How far is the refuelling point from the fuel tanks in metres?	1	
5	How deep is the municipal sewerage connection?	1	
6	How many gullies are shown?	1	
7	What does the abbreviation IE stand for?	1	
8	How many palm trees are shown?	1	
9	What is the maximum permitted distance between the lamp posts in metres?	1	
10	What is the combined capacity of the underground fuel tanks in cubic litres?	2	
11	Besides the trees, what other natural feature is indicated?	1	
12	What does the line at 1 indicate?	1	
13	What does the line at 2 indicate?	1	
14	Name the feature at 3.	1	
15	In what colour must a new sewerage line be indicated on a drainage plan?	1	
16	Which elevation of the proposed new logistics centre faces the new staff parking?	2	
17	What is the distance between the boundary line and the building line on the north eastern side of the stand in metres?	2	
18	In the space below (ANSWER 18), determine the perimeter of the stand in metres.	3	
19	In the space below (ANSWER 19), determine the total area of the proposed new logistics centre in square metres.	3	
20	In the space in the title panel (ANSWER 20), draw, in neat freehand, the front view and top view of the SANS 10143 graphical symbol for a WASHTUB.	4	
TOTAL		30	

ANSWER 18
Show ALL calculations.

ANSWER 19
Show ALL calculations.

EXAMINATION NUMBER
EXAMINATION NUMBER
2

	ANSWERS	
1	LUKE	1
2	STAND 7392	1
3	8789	1
4	30 m or 30	1
5	1,2 m (unit m must be shown) or 1200 mm or 1200	1
6	2	1
7	INSPECTION EYE	1
8	8 or 9	1
9	50 m or 50	1
10	140 l ³ / CUBIC LITRE or 140 (2 marks) 2 x 70 (1 mark)	2
11	ORANGE RIVER or RIVER	1
12	SECURITY FENCE or FENCE	1
13	(50 YEAR) FLOOD LINE	1
14	NORTH POINT	1
15	BROWN	1
16	SOUTH EAST or SE	2
17	6,2 m or 6,2 (2 marks) 6200 or 6200 mm (1 mark)	2
18	735,23 m (calculation 1, answer 1, decimal correct 1)	3
19	1991,25 m ² (calculation 1, answer 1, metre ² 1)	3
20	See below	4

TOTAL: 30

ANSWER 18
Show ALL calculations.

$$L+L+L+L$$

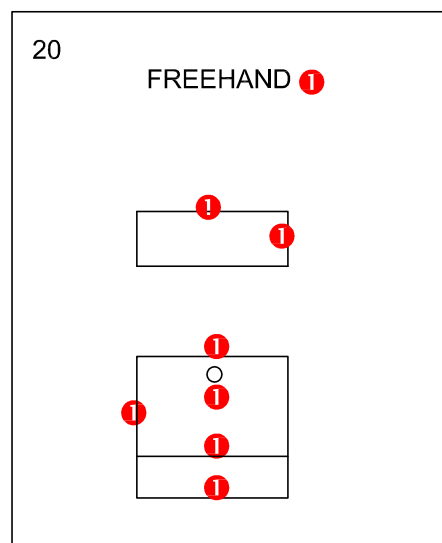
$$=143,560+223,910+143,890+223,870$$

$$= 735,23 \text{ m}$$

ANSWER 19
Show ALL calculations.

$$(L \times B) + (L \times B) + (L \times B)$$

$$= (19,5 \times 28,5) + (21 \times 24) + (27 \times 34,5)$$

$$= 1991,25 \text{ m}^2$$


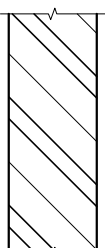
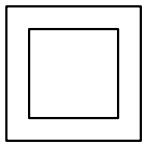
PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES

2

ANSWERS

1	SITE PLAN	1
2	2018 - 04 - 05	1
3	1 : 500	1
4	FEROX STREET	1
5	3	1
6	8	1
7	RODDING EYE	1
8	2200	1
9	GATE SWING	1
10	ELECTRICAL METER/WATT METER	1
11	3	1
12	PALISADE	1
13	WALL/STRUCTURE/BUILDING	1
14	3290	2
15	MUST BE REMOVED	1
16	DIRECTION OF FLOW	1
17	1 : 40	1
18	GREEN	1
19	<i>See the title panel</i>	4
20	226,18 m (calculation 2, answer 1, converted to metre 1)	4
21	315.045 m ² (calculation 1, answer 1, metre ² 1)	3
TOTAL		30

ANSWER 19

a)  FACE BRICK hatching MARK ALLOCATION - DOUBLE-SINGLE-DOUBLE 1 - FREEHAND $\frac{1}{2}$ TOTAL $1\frac{1}{2}$	b)  FREEHAND $\frac{1}{2}$ GULLY MARK ALLOCATION 2 SQUARES or RECTANGLES TOTAL 2
--	---

ANSWER 20

$$\begin{aligned}
 \text{Perimeter} &= (22,5 + 9,85 + 26,69 + 65,05 + 49,19 + 74,9) - (12 + 10) \\
 &= 248,18 \text{ m} - 22 \text{ m} \\
 &= 226,18 \text{ m}
 \end{aligned}$$

ANSWER 21

$$\begin{aligned}
 \text{Area} &= (7200 \times 24100) + (11100 \times 7200) + \frac{1}{2}(11100 \times 11100) \\
 &= 173,52 + 79,92 + 61,605 \\
 &= 315,045 \text{ m}^2
 \end{aligned}$$

PAPER 1 QUESTION 1
 GRADE 12
 NOVEMBER 2018
 MARKING GUIDELINE

ANSWERS		
1	CLARK	1
2	1818	1
3	KRYPTON PTY (LTD)	1
4	2018/12/20	1
5	VERIFY ALL DIMENSIONS AND LEVELS	1
6	GRAVEL	1
7	6 m	1
8	2044	1
9	BROWN	1
10	BUILD-IN CUPBOARD	1
11	TO BE REMOVED	1
12	NORTH	1
13	IE	1
14	SHRUBBERY	1
15	SEPTIC TANK and FRENCH DRAIN	2
16	SOUTH WEST	1
17	CLUBHOUSE, DECK, POOL	3
18	See below	3
19		3
20		4
TOTAL		30

ANSWER 18

$$\begin{aligned}
 &AB + BC + CD + DE + EF + FG + GA \\
 &= 16.06 + 7.05 + 23.36 + 26.41 + \\
 &\quad 18.07 + 53.16 + 47.69 \\
 &= 191.80 \text{ m}
 \end{aligned}$$

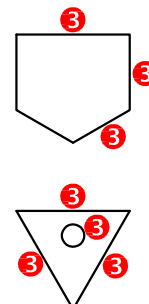
ANSWER 19

$$\begin{aligned}
 \text{AREA} &= (5 \times 6) + (7 \times 4) \\
 &= 30 + 28 \\
 &= 58\text{m}^2 \\
 &= 5.3 \times 5.95 \\
 &= 31.54\text{m}^2 \\
 &= 3 \times 5 \\
 &= 15\text{m}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{AREA} &= 58 + 31.54 + 15 \\
 &= 104.54\text{m}^2
 \end{aligned}$$

ANSWER 20

FREEHAND



PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2019
MARKING GUIDELINES

GRADE 12 NSC

PAST QUESTIONS ON

INTERPENETRATION AND DEVELOPMENT

PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS

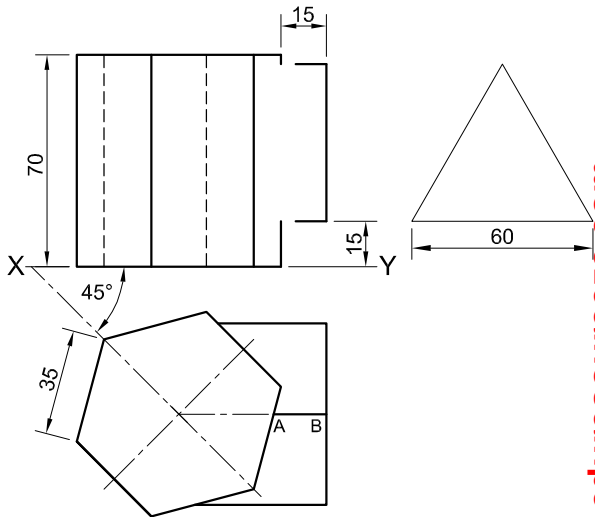


QUESTION 2: INTERPENETRATION AND DEVELOPMENT

- Given:**
- The incomplete front view and top view of an equilateral triangular prism that has been shaped to fit around a right regular hexagonal prism. The axes of both prisms lie in a common vertical plane.
 - An auxiliary view of the triangular prism.

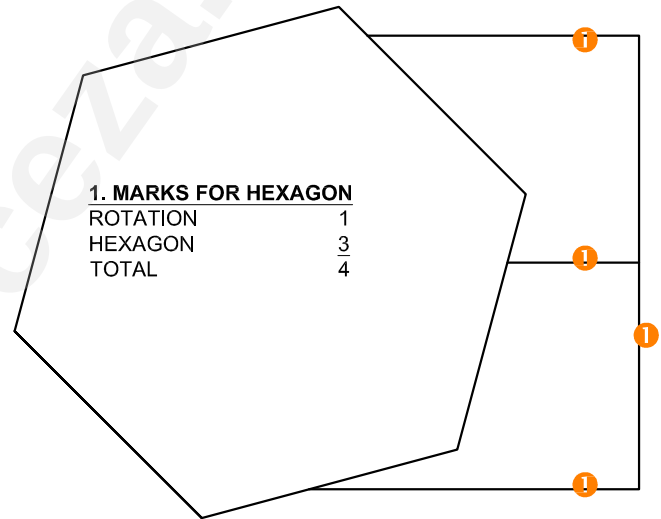
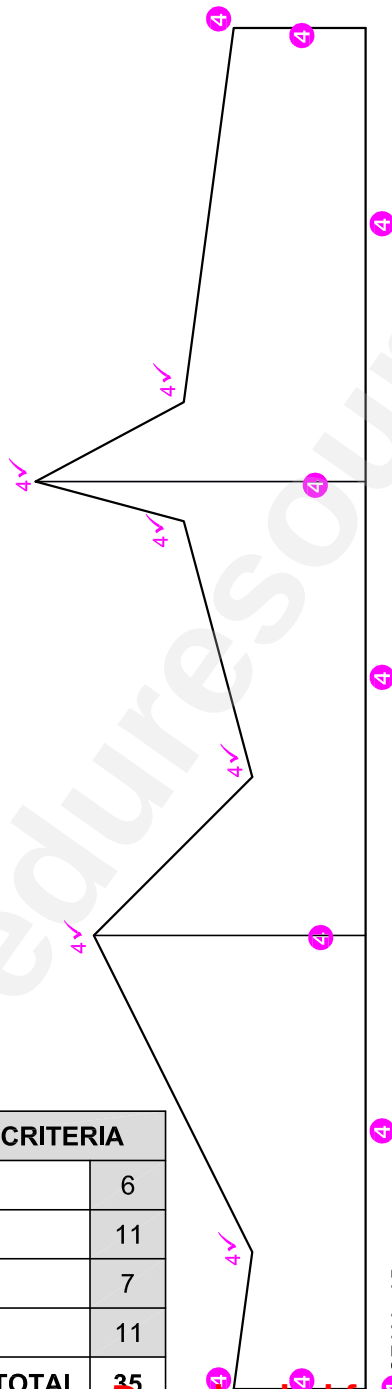
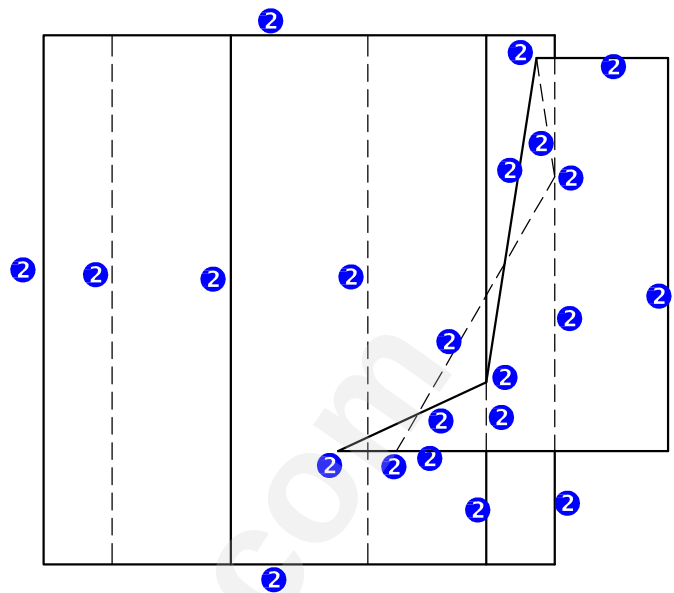
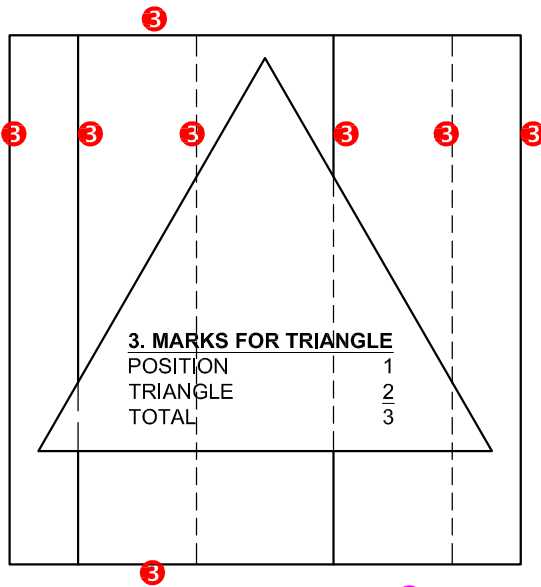
- Instructions:**
- Draw, to scale 1 : 1, the following:
- 2.1 The given top view
 - 2.2 The complete front view clearly showing the curve of interpenetration
 - 2.3 The complete right view
 - 2.4 The development of the surface of the triangular prism
- Make **AB** the seam.

- Show ALL hidden detail.
- Show ALL necessary construction. [35]



AB IS THE SEAM.

ASSESSMENT CRITERIA				
1	TOP VIEW	6		
2	FRONT VIEW	11		
3	RIGHT VIEW	7		
4	DEVELOPMENT	11		
PENALTIES (-)				
TOTAL		35		
EXAMINATION NUMBER				
EXAMINATION NUMBER				3



ASSESSMENT CRITERIA		
1	TOP VIEW	6
2	FRONT VIEW	11
3	RIGHT VIEW	7
4	DEVELOPMENT	11
TOTAL		35

SEAM AB

PAPER 1 QUESTION 2
GRADE 12
November 2015
MEMORANDUM

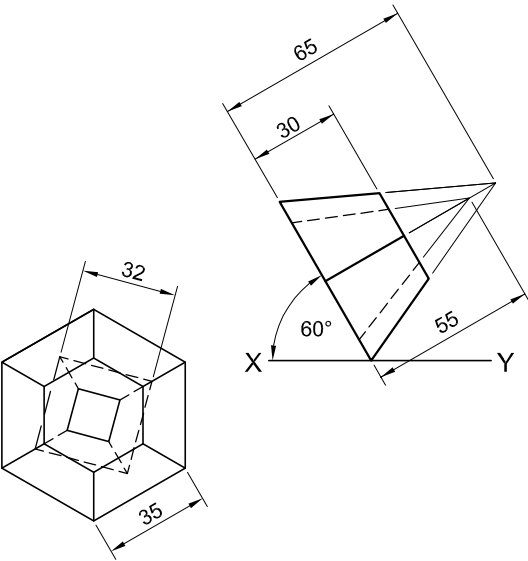


QUESTION 2: SOLID GEOMETRY

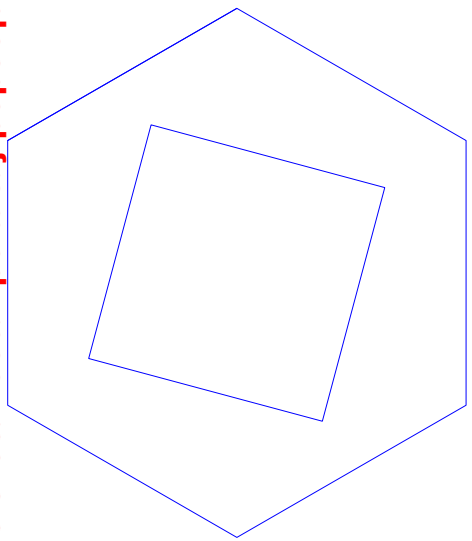
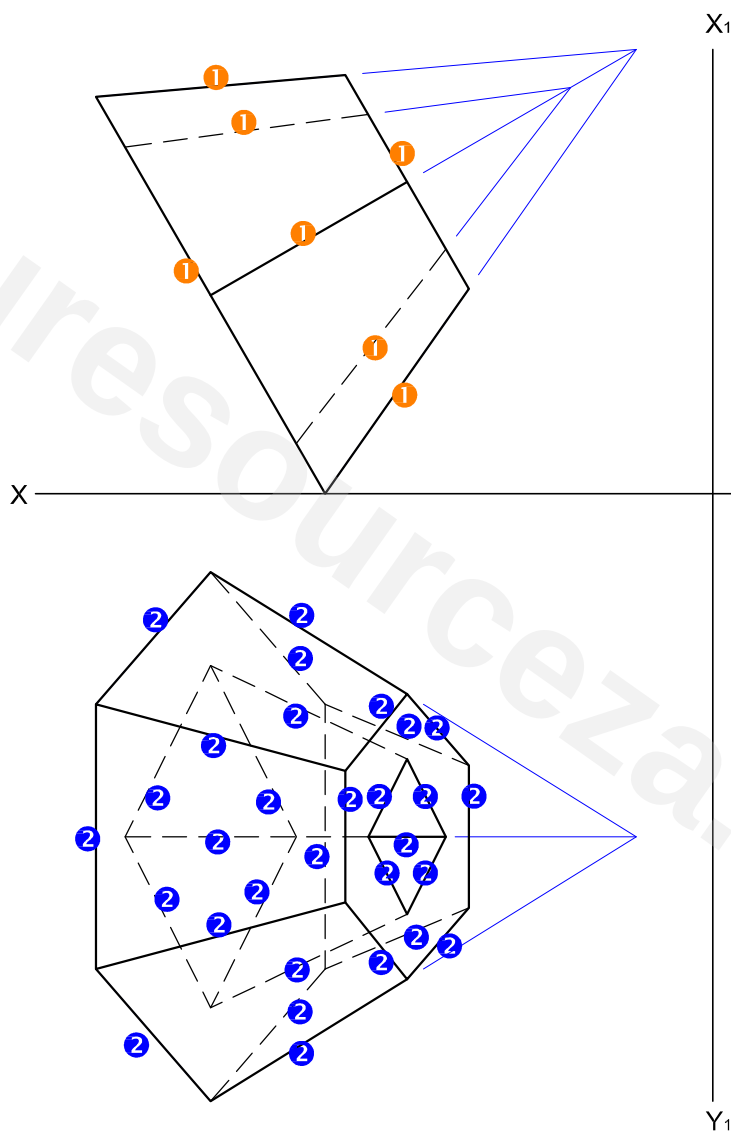
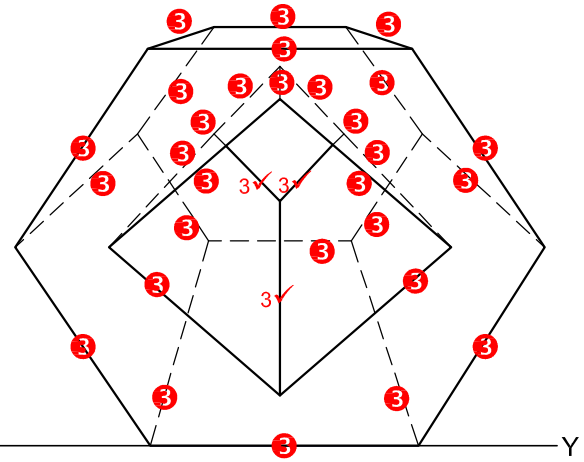
Given:
The front view and an auxiliary view of a truncated right regular hexagonal pyramid with a centrally placed right square pyramidal hole.

Instructions:
Draw, to scale 1 : 1, the following views of the solid:
2.1 The given front view
2.2 The top view
2.3 The left view

- Show ALL hidden detail.
- Show ALL necessary construction. [40]



ASSESSMENT CRITERIA				
1	FRONT AND AUX. VIEW	7½		
2	TOP VIEW	15		
3	LEFT VIEW	17½		
PENALTIES (-)				
TOTAL		40		
EXAMINATION NUMBER				
EXAMINATION NUMBER				3



ANY ACCEPTABLE
CONSTRUCTION METHOD
USED FOR THE
AUXILIARY VIEW
1✓✓✓✓

ASSESSMENT CRITERIA		
1	FRONT AND AUX. VIEW	7½
2	TOP VIEW	15
3	LEFT VIEW	17½
TOTAL		40



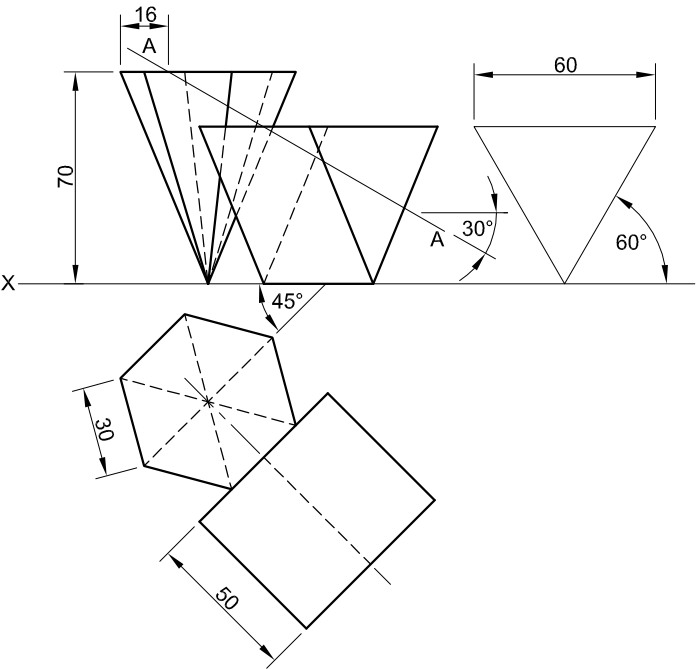
QUESTION 2: SOLID GEOMETRY

- Given:**
- The front view and the top view of a right regular hexagonal pyramid and a right equilateral triangular prism. The axes of both solids lie in a common vertical plane.
 - An auxiliary view of the triangular prism

- Specifications:**
- The two solids do not touch.
 - Both solids are cut by cutting plane AA.

- Instructions:**
Draw, to scale 1 : 1, the following views of the TWO solids:
- 2.1 The given front view
 - 2.2 The sectional top view
 - 2.3 The sectional right view

- Planning is essential.
 - Show ALL necessary construction.
 - Show ALL hidden detail on all three views.
- [37]



ASSESSMENT CRITERIA					
1	CONSTRUCTION	3			
2	FRONT VIEW	9			
3	SECTIONAL TOP VIEW	11			
4	SECTIONAL RIGHT VIEW	14			
PENALTIES (-)					
TOTAL		37			
EXAMINATION NUMBER					
EXAMINATION NUMBER					3

ASSESSMENT CRITERIA

1	CONSTRUCTION	3
2	FRONT VIEW	9
3	SECTIONAL TOP VIEW	11
4	SECTIONAL RIGHT VIEW	14
PENALTIES (-)		
TOTAL		37

PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2016
MEMORANDUM

1. POLYGON CONSTRUCTION

- TRIANGLE 1
- HEXAGON 1
- HEXAGON ROTATION 1
- TOTAL 3**

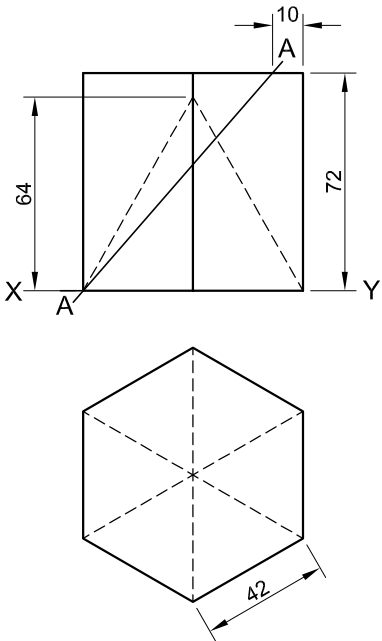
SIZE + SHAPE ✓1
ROTATION ✓1



QUESTION 2: SOLID GEOMETRY

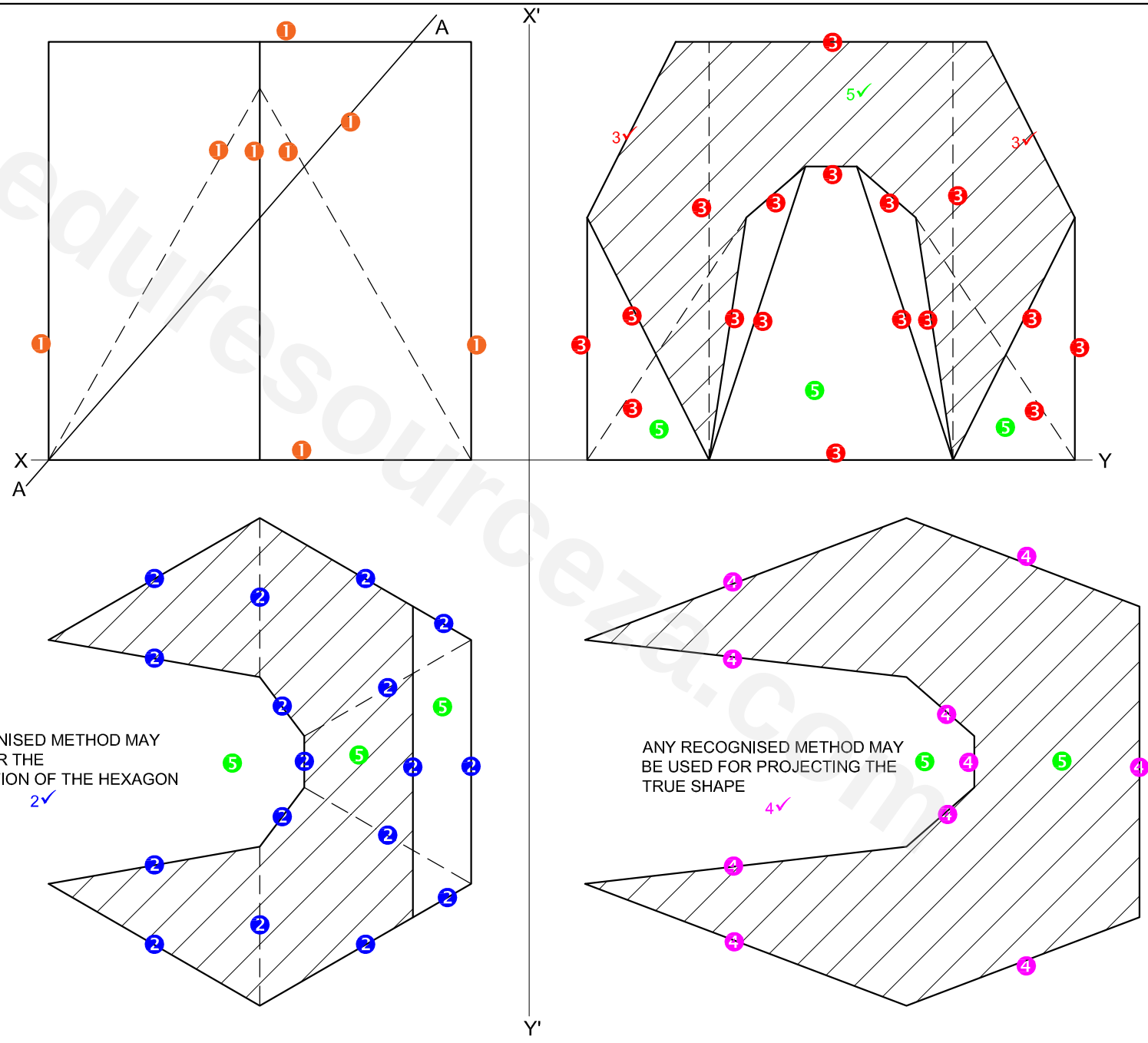
- Given:**
- The front view and the top view of a right regular hexagonal prism with a right regular hexagonal pyramidal hole
 - Cutting plane A-A

- Instructions:**
- Draw, to scale 1 : 1, the following views of the solid:
- 2.1 The given front view
 - 2.2 A sectional top view
 - 2.3 A sectional left view
 - 2.4 The true shape of the cut surface
- Show ALL hidden detail.
 - Show ALL construction.
- [35]



ASSESSMENT CRITERIA				
1	FRONT VIEW	4		
2	SECTIONAL TOP VIEW	9½		
3	SECTIONAL LEFT VIEW	10½		
4	TRUE SHAPE	6		
5	HATCHING	5		
PENALTIES (-)				
TOTAL		35		
EXAMINATION NUMBER				
EXAMINATION NUMBER				3

ASSESSMENT CRITERIA		
1	FRONT VIEW	4
2	SECTIONAL TOP VIEW	9½
3	SECTIONAL LEFT VIEW	10½
4	TRUE SHAPE	6
5	HATCHING	5
TOTAL		35



ANY RECOGNISED METHOD MAY
BE USED FOR THE
CONSTRUCTION OF THE HEXAGON
2✓

ANY RECOGNISED METHOD MAY
BE USED FOR PROJECTING THE
TRUE SHAPE
4✓

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PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES



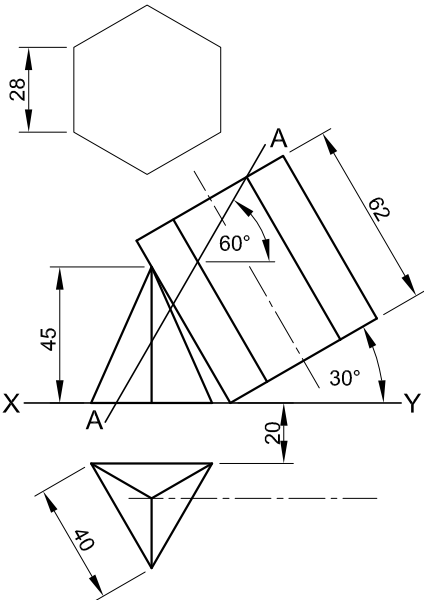
QUESTION 2: SOLID GEOMETRY

- Given:**
- The front view of a right equilateral triangular pyramid and a right regular hexagonal prism
 - The top view of the pyramid and the axis of the prism
 - An auxilliary view of the prism
 - Cutting plane A-A

- Specifications:**
- The prism leans against the pyramid.
 - Both solids are cut by cutting plane A-A.

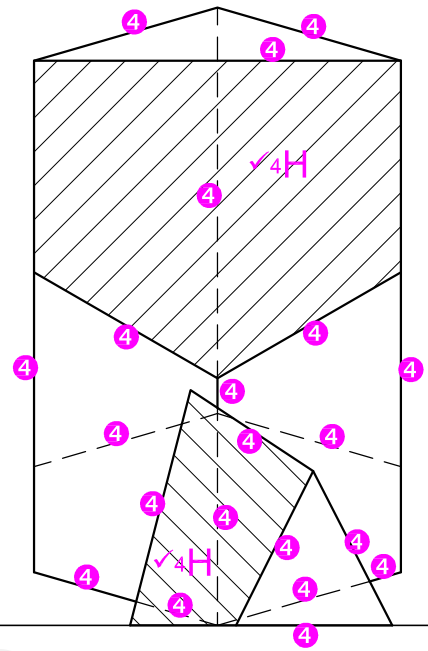
- Instructions:**
Draw, to scale 1 : 1, the following views of the TWO solids:
- 2.1 The given front view
 - 2.2 A sectional top view
 - 2.3 A sectional left view
 - 2.4 The true shape of the cut surfaces

- Planning is essential.
 - Show ALL construction.
 - Show ALL hidden detail.
- [40]

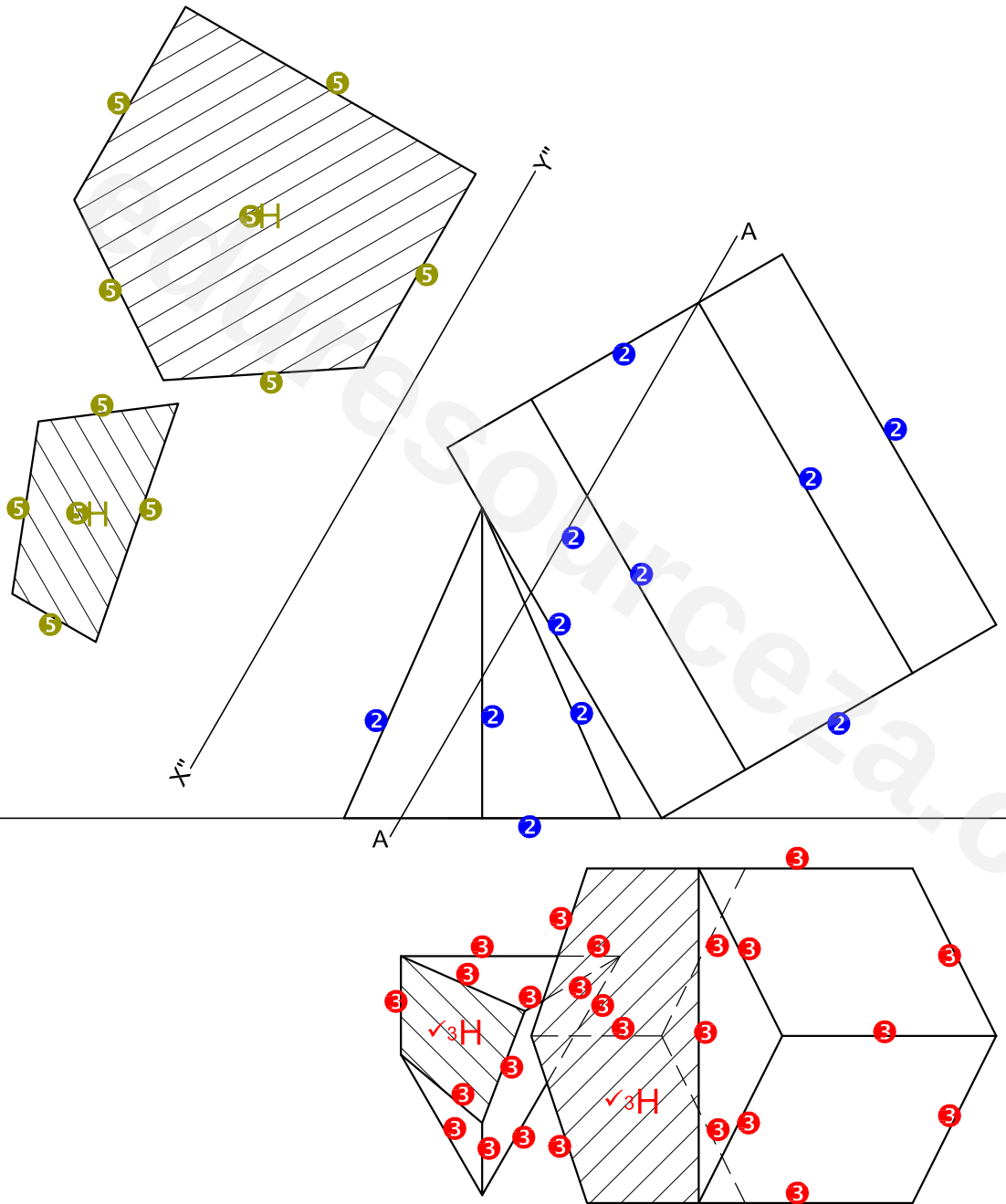


ASSESSMENT CRITERIA				
1	CONSTRUCTION	1		
2	FRONT VIEW	5 ¹ / ₂		
3	SECTIONAL TOP VIEW	14 ¹ / ₂		
4	SECTIONAL LEFT VIEW	12 ¹ / ₂		
5	TRUE SHAPE	6 ¹ / ₂		
PENALTIES (-)				
TOTAL		40		
EXAMINATION NUMBER				
EXAMINATION NUMBER				3





ASSESSMENT CRITERIA		
1	CONSTRUCTION	1
2	FRONT VIEW	5 1/2
3	SECTIONAL TOP VIEW	14 1/2
4	SECTIONAL LEFT VIEW	12 1/2
5	TRUE SHAPE	6 1/2
TOTAL		40



5. TRUE SHAPE
ANY
RECOGNISED
METHOD
TOTAL 1

1. CONSTRUCTION
- TRIANGLE 2 1/4
- HEXAGON 2 1/4
TOTAL 1

PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

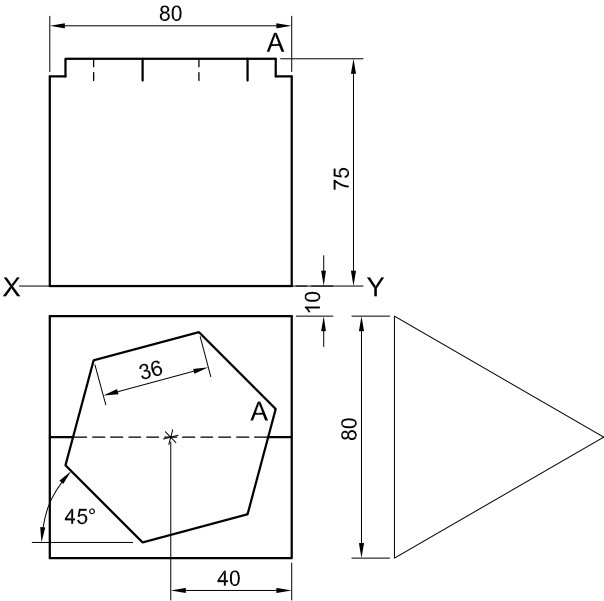


QUESTION 2: INTERPENETRATION AND DEVELOPMENT

- Given:**
- The top view and incomplete front view of a right regular hexagonal prism that has been shaped to fit over an equilateral triangular prism. The axes of both solids lie in a common vertical plane.
 - An auxiliary view of the triangular prism

- Instructions:**
- Draw, to scale 1 : 1, the following views of the TWO solids:
- 2.1 The given top view
 - 2.2 The right view
 - 2.3 The complete front view, clearly showing the curve of interpenetration
 - 2.4 The development of the surface of the hexagonal prism. Make edge 'A' the seam.

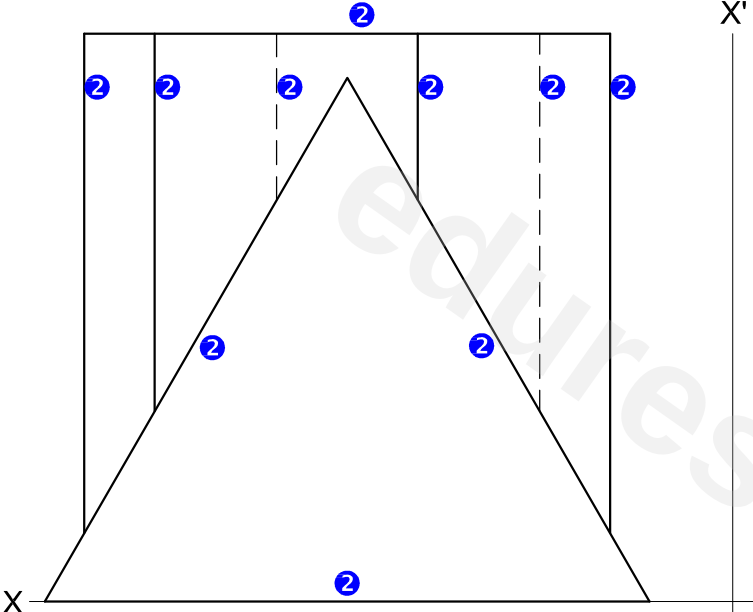
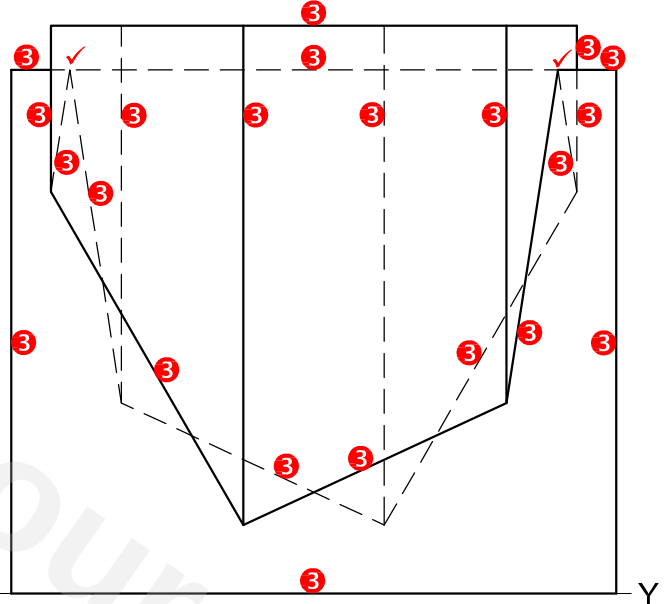
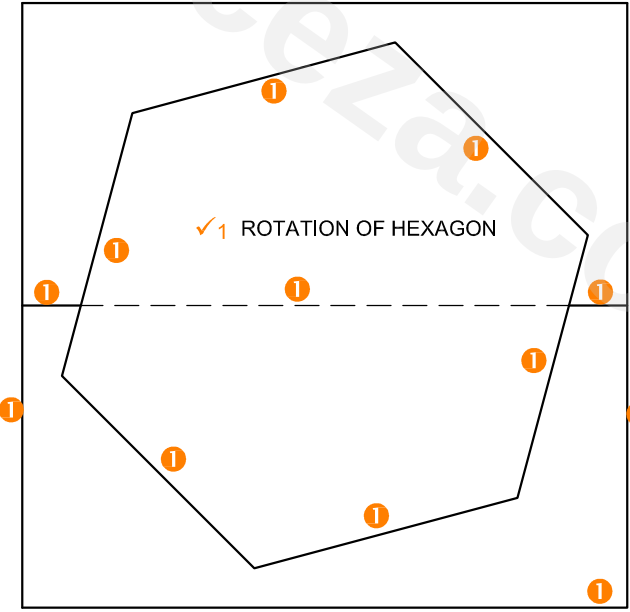
- Planning is essential.
 - Show ALL hidden detail.
 - Show ALL construction.
- [37]



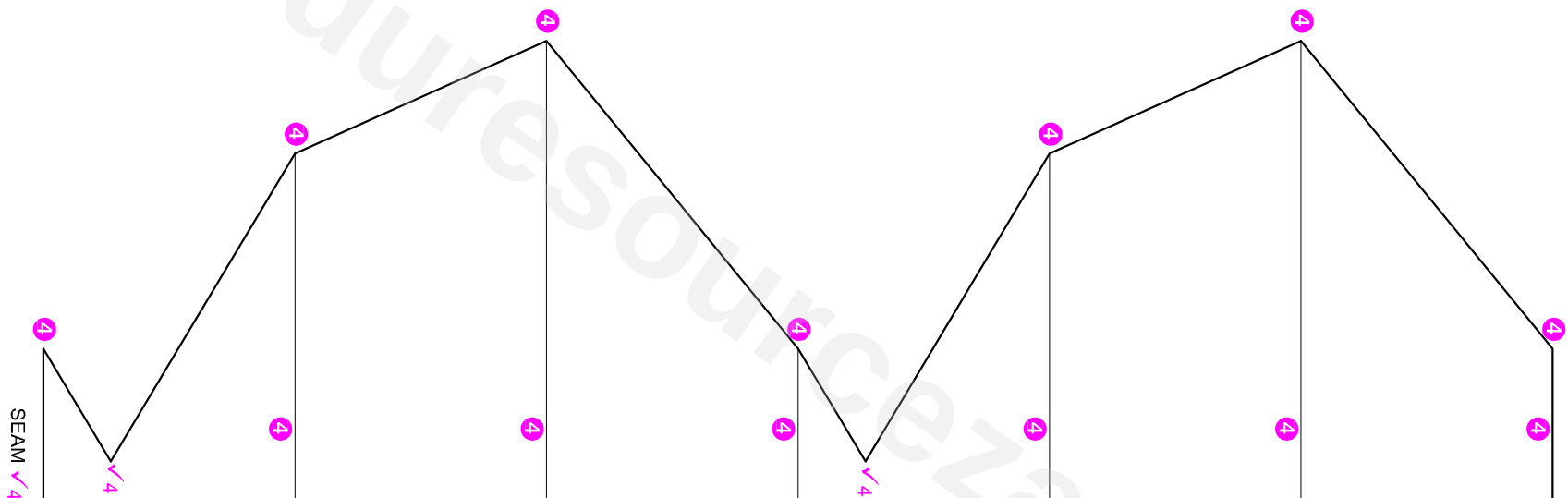
EDGE 'A' IS THE SEAM

ASSESSMENT CRITERIA				
1	TOP VIEW	7 1/2		
2	RIGHT VIEW	5		
3	FRONT VIEW	13		
4	DEVELOPMENT	11 1/2		
PENALTIES (-)				
TOTAL		37		
EXAMINATION NUMBER				
EXAMINATION NUMBER				3

ASSESSMENT CRITERIA		
1	TOP VIEW	7 ¹ / ₂
2	RIGHT VIEW	5
3	FRONT VIEW	13
4	DEVELOPMENT	11 ¹ / ₂
TOTAL		37



PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2019
MARKING GUIDELINES



✓✓ SIX EQUAL SPACES
✓✓ BASE LINE

PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2019
MARKING GUIDELINES

GRADE 12 NSC

PAST QUESTIONS ON

PERSPECTIVE DRAWING

PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS



QUESTION 3: PERSPECTIVE

Given:
Three views of a wooden deck with a hexagonal pool and the information needed to draw a two-point perspective drawing.
PP – Picture plane
HL – Horizon line
GL – Ground line
SP – Station point

Instructions:
Complete the perspective drawing.

- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL necessary construction.
- NO hidden detail is required.

[39]

ASSESSMENT CRITERIA					
1	CONSTRUCTION + VPs	6			
2	BASE + STAIRS	12½			
3	POOL	13½			
4	CIRCULAR ARC	7			
PENALTIES (-)					
TOTAL		39			

PP and HL

GL

+
SP

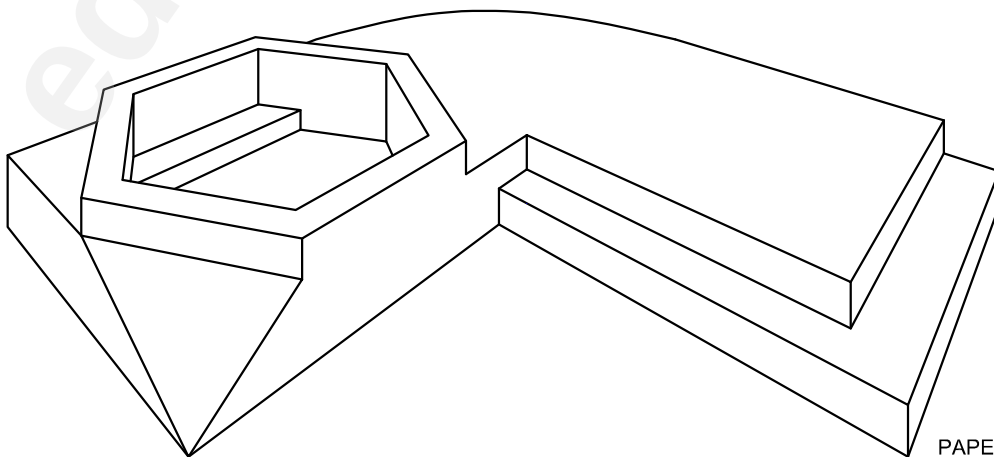
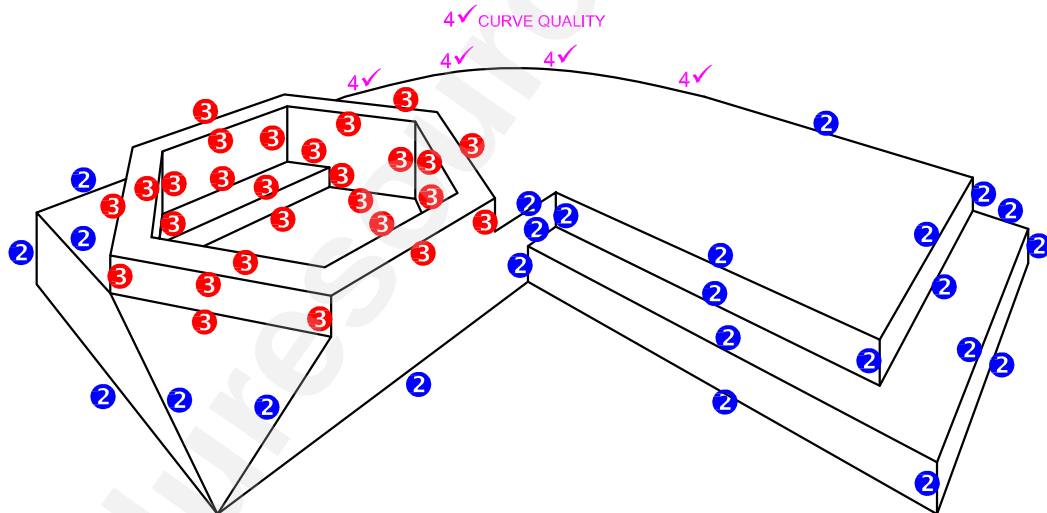
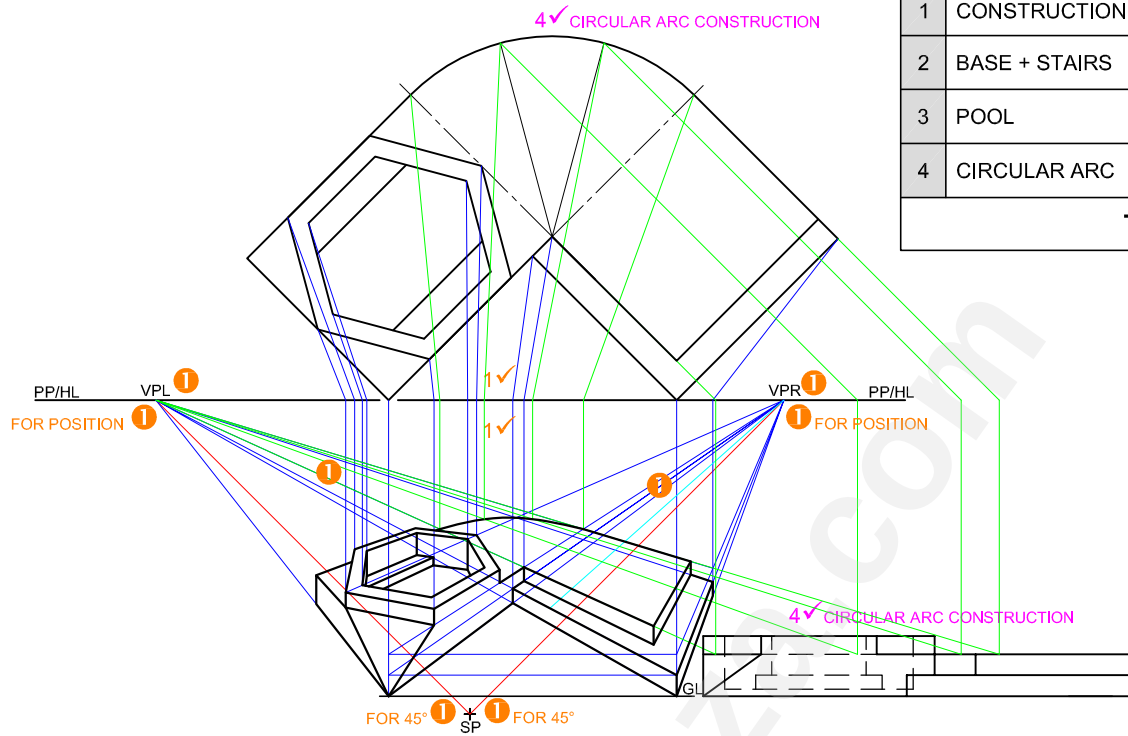
EXAMINATION NUMBER

EXAMINATION NUMBER

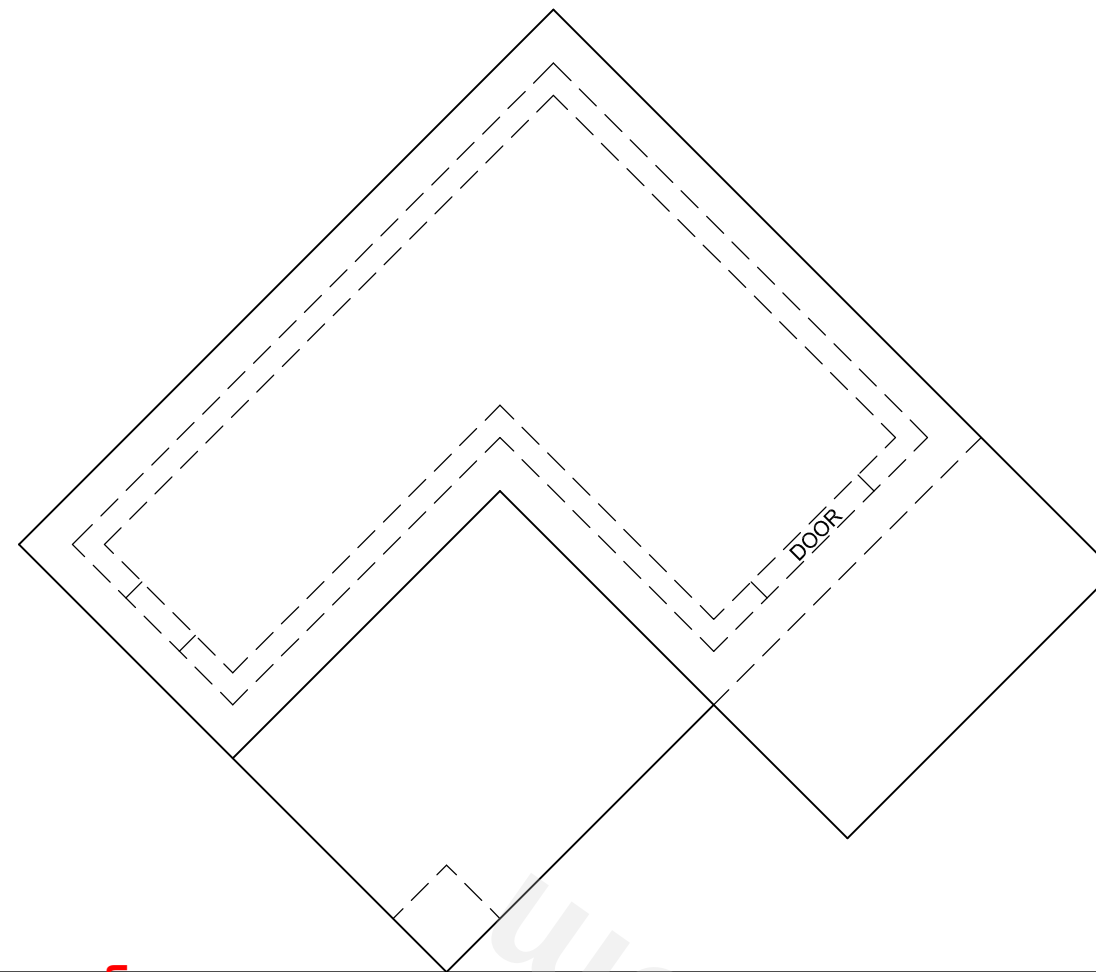
4

ASSESSMENT CRITERIA

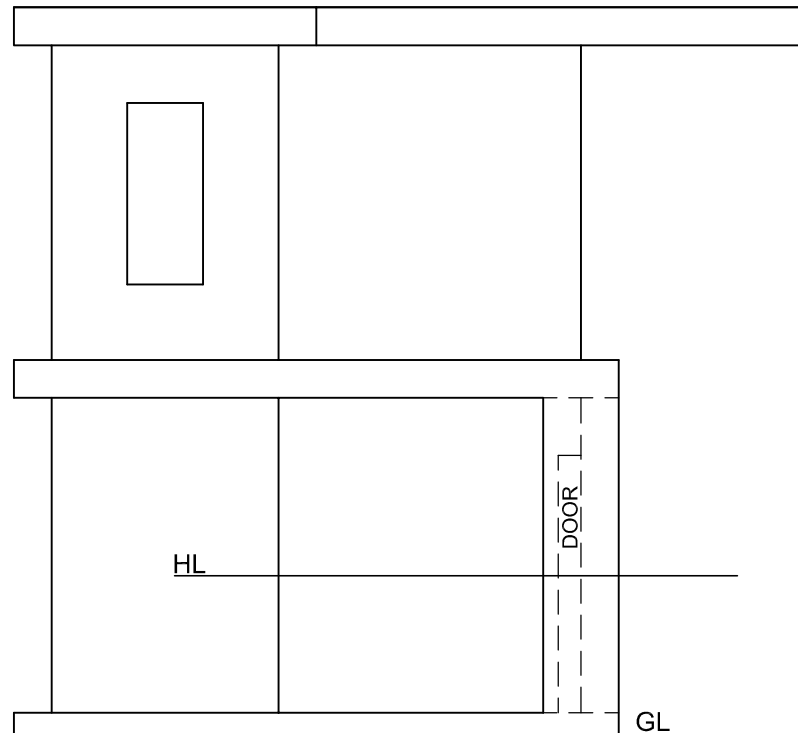
1	CONSTRUCTION + VPs	6
2	BASE + STAIRS	12½
3	POOL	13½
4	CIRCULAR ARC	7
TOTAL		39



PAPER 1 QUESTION 3
GRADE 12
November 2015
MEMORANDUM



PP



GL

SP



* B A S I C = E D U C A T I O N

32

QUESTION 3: PERSPECTIVE

Given:

Three views of a double-storey dwelling and the information needed to draw a two-point perspective drawing.

PP – Picture plane

HL – Horizon line

GL – Ground line

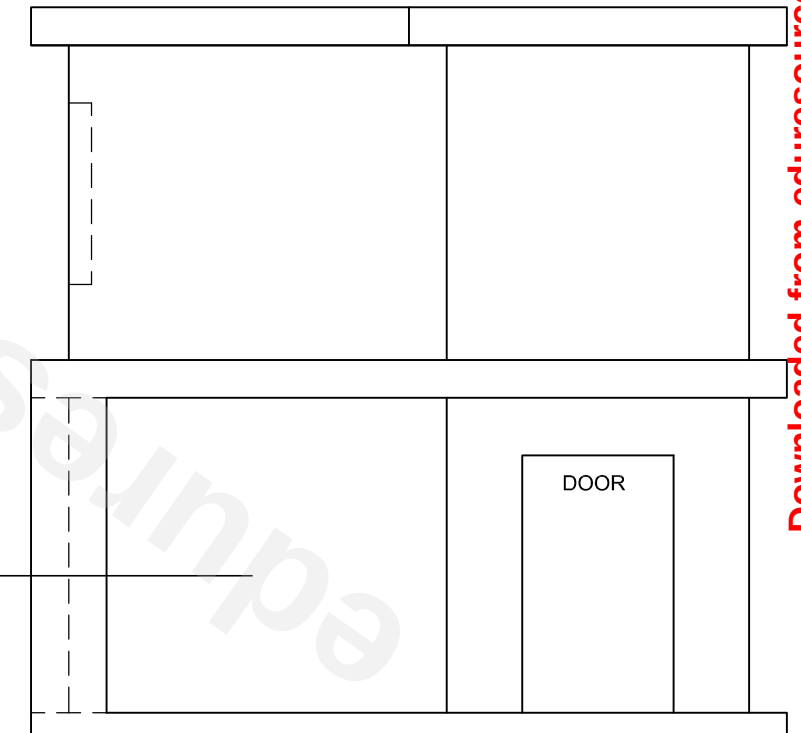
SP – Station point

Instructions:

Complete the perspective drawing.

- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL necessary construction.
- NO hidden detail is required. **[39]**

ASSESSMENT CRITERIA				
1	CONSTRUCTION + VPs	5		
2	FLOOR	4		
3	GROUND FLOOR	12		
4	FIRST FLOOR	12		
5	WINDOW + DOOR	6		
PENALTIES (-)				
TOTAL		39		



EXAMINATION NUMBER

EXAMINATION NUMBER

1

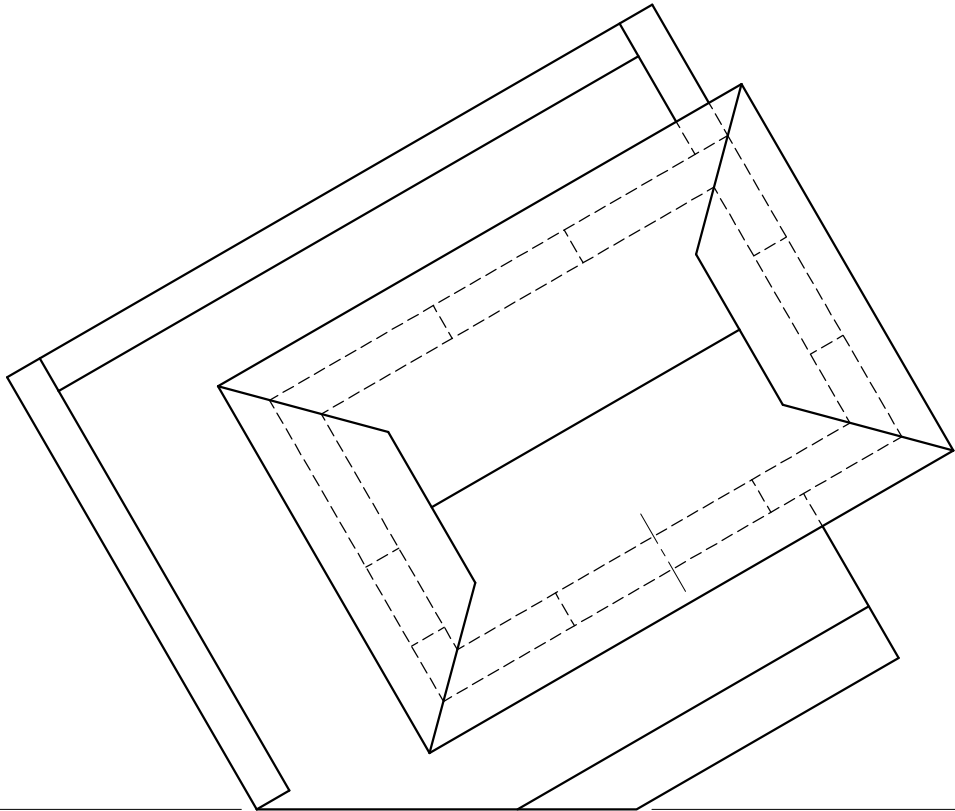
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Please turn over

ASSESSMENT CRITERIA

1	CONSTRUCTION + VPs	5
2	FLOOR	4
3	GROUND FLOOR	12
4	FIRST FLOOR	12
5	WINDOW + DOOR	6
TOTAL		39

PAPER 1 QUESTION 3
GRADE 12
Feb.-Mar.2016
MEMORANDUM



QUESTION 3: PERSPECTIVE

Given:
Three views of a shelter with a viewing deck and the information needed to draw a two-point perspective drawing
PP – Picture plane
HL – Horizon line
GL – Ground line
SP – Station point

- Instructions:**
Complete the perspective drawing.
- Align the drawing sheet with the ground line (GL).
 - Determine and label the vanishing points.
 - Show ALL necessary construction.
 - NO hidden detail is required.
- [40]

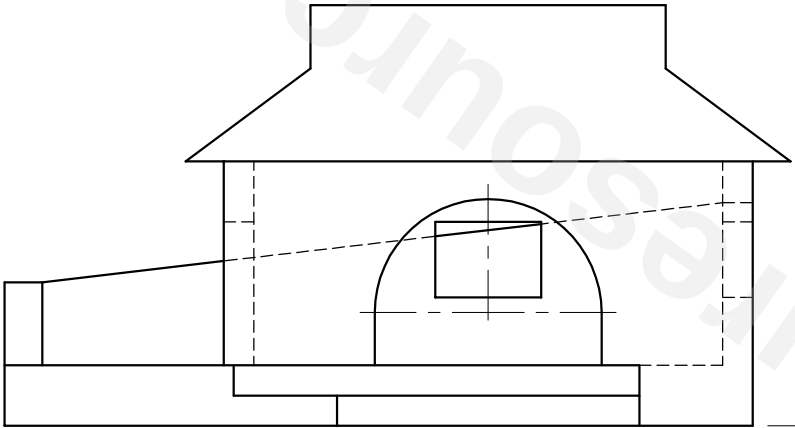
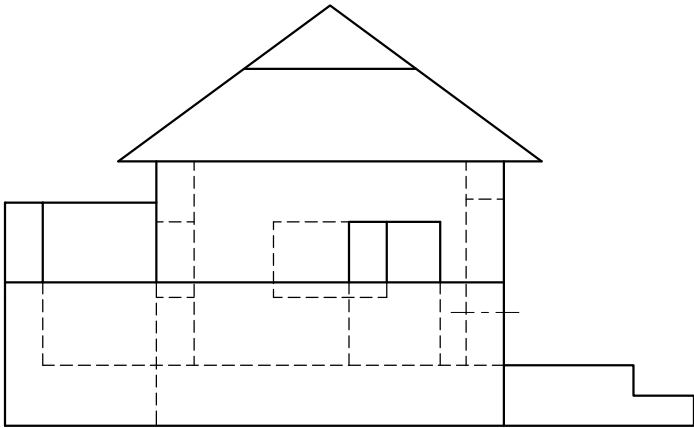
PP

PP

HL

HL

GL

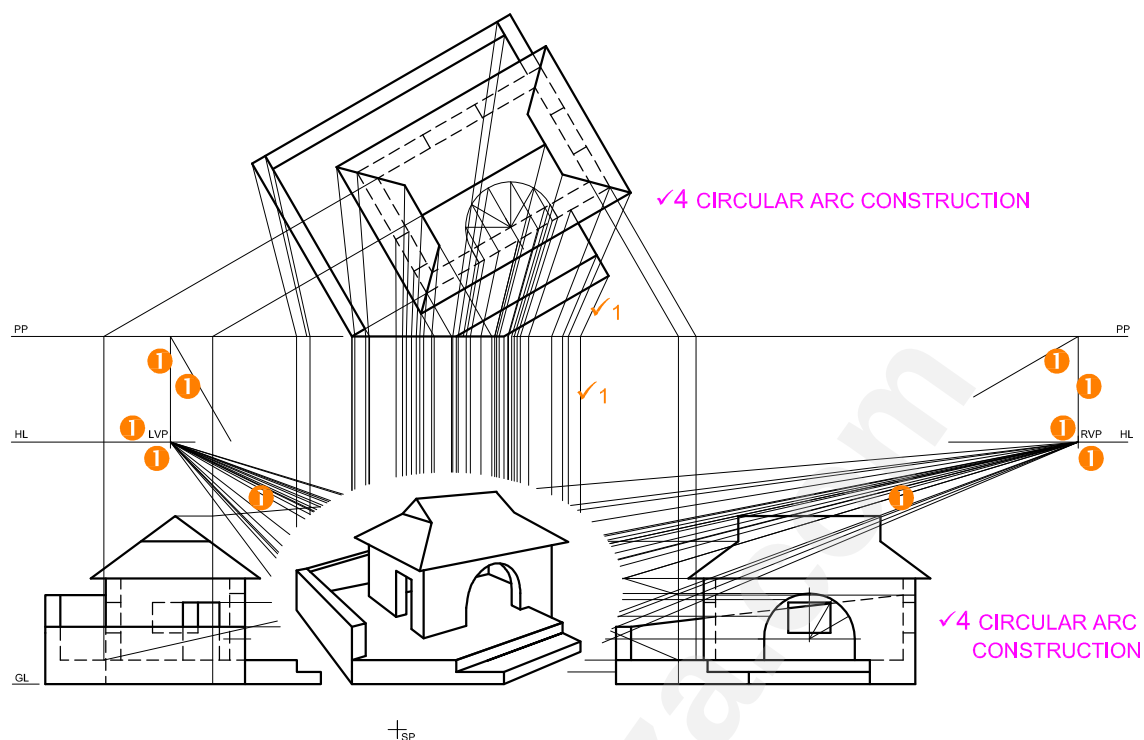


SP

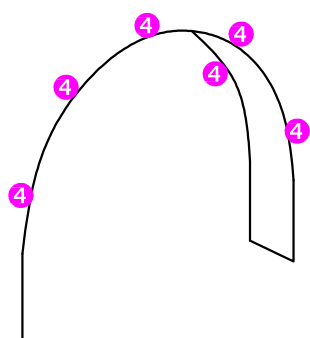
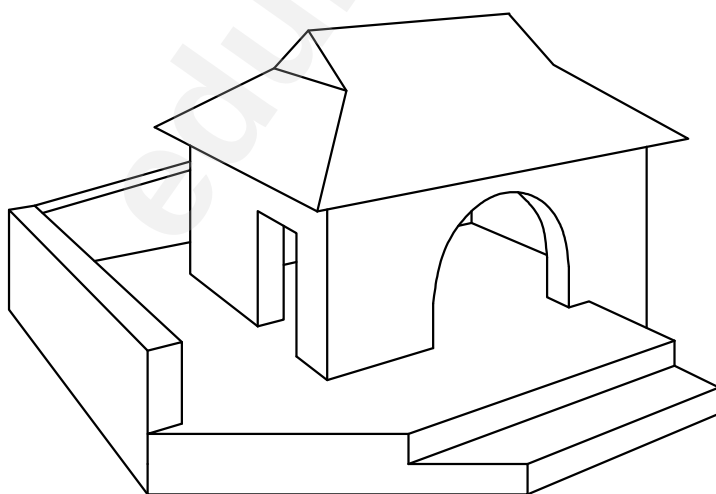
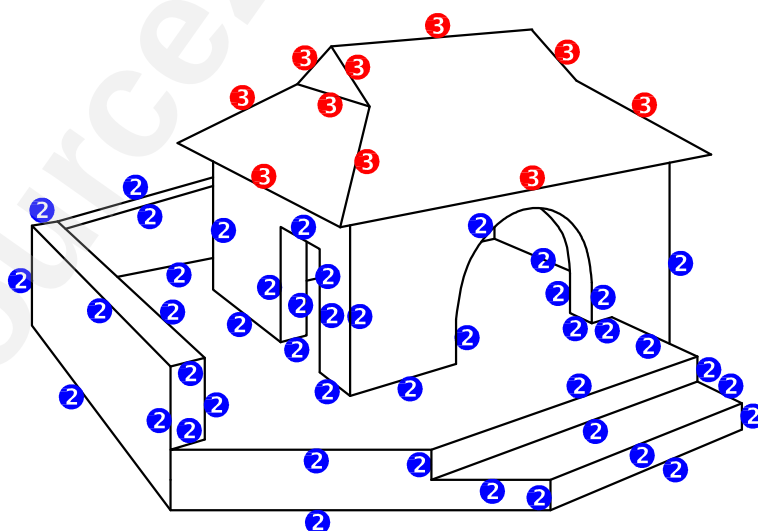
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ASSESSMENT CRITERIA				
1	CONSTRUCTION + VPs	7		
2	WALLS + DOORS	22		
3	ROOF	5		
4	CIRCULAR ARC	6		
TOTAL		40		
EXAMINATION NUMBER				
EXAMINATION NUMBER				4



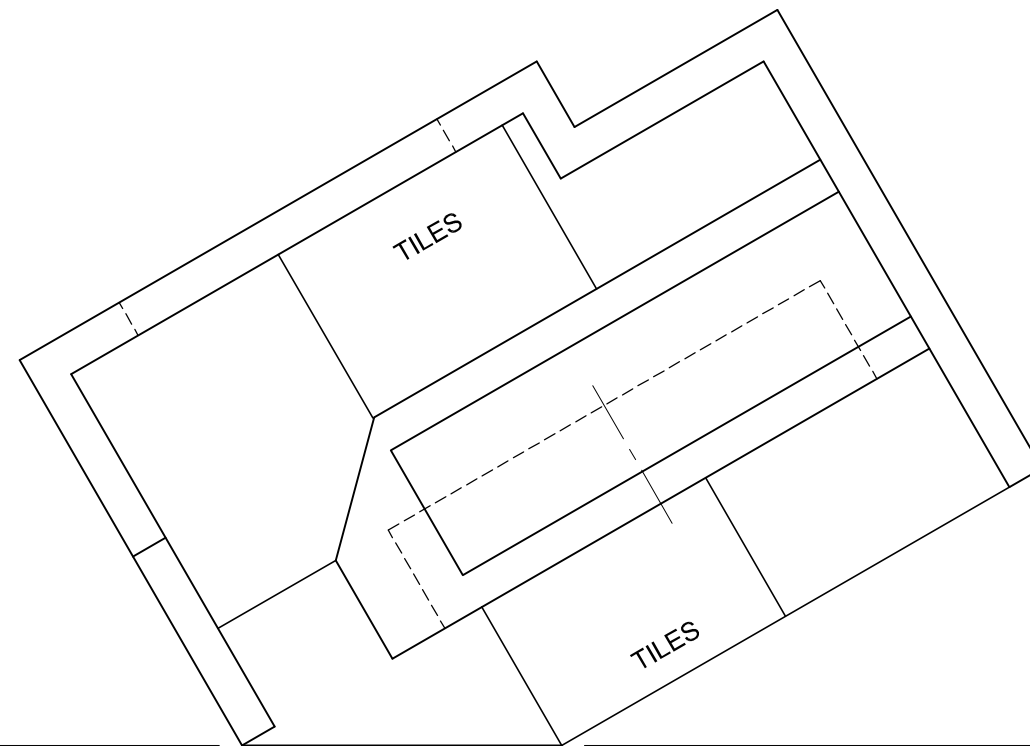
✓4 CURVE QUALITY

MARK ALLOCATION
FOR THE CIRCULAR ARC**ASSESSMENT CRITERIA**

1	CONSTRUCTION + VPs	7
2	WALLS + DOORS	22
3	ROOF	5
4	CIRCULAR ARC	6
TOTAL		40

PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2016
MEMORANDUM

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QUESTION 3: PERSPECTIVE

Given:

Three views of a serving area and the information needed to draw a two-point perspective drawing

PP – Picture plane

HL – Horizon line

GL – Ground line

SP – Station point

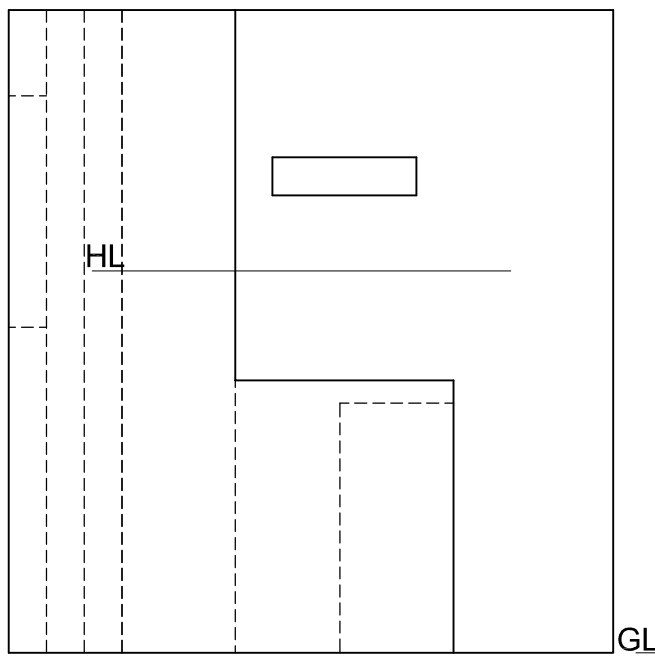
Instructions:

Complete the perspective drawing.

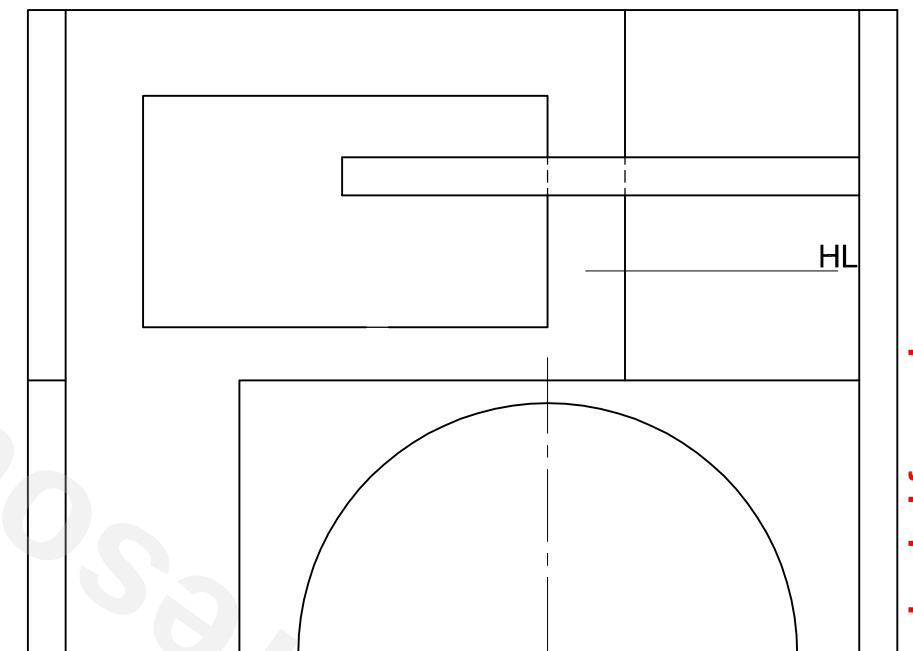
- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL construction.
- NO hidden detail is required. **[40]**

[40]

PP



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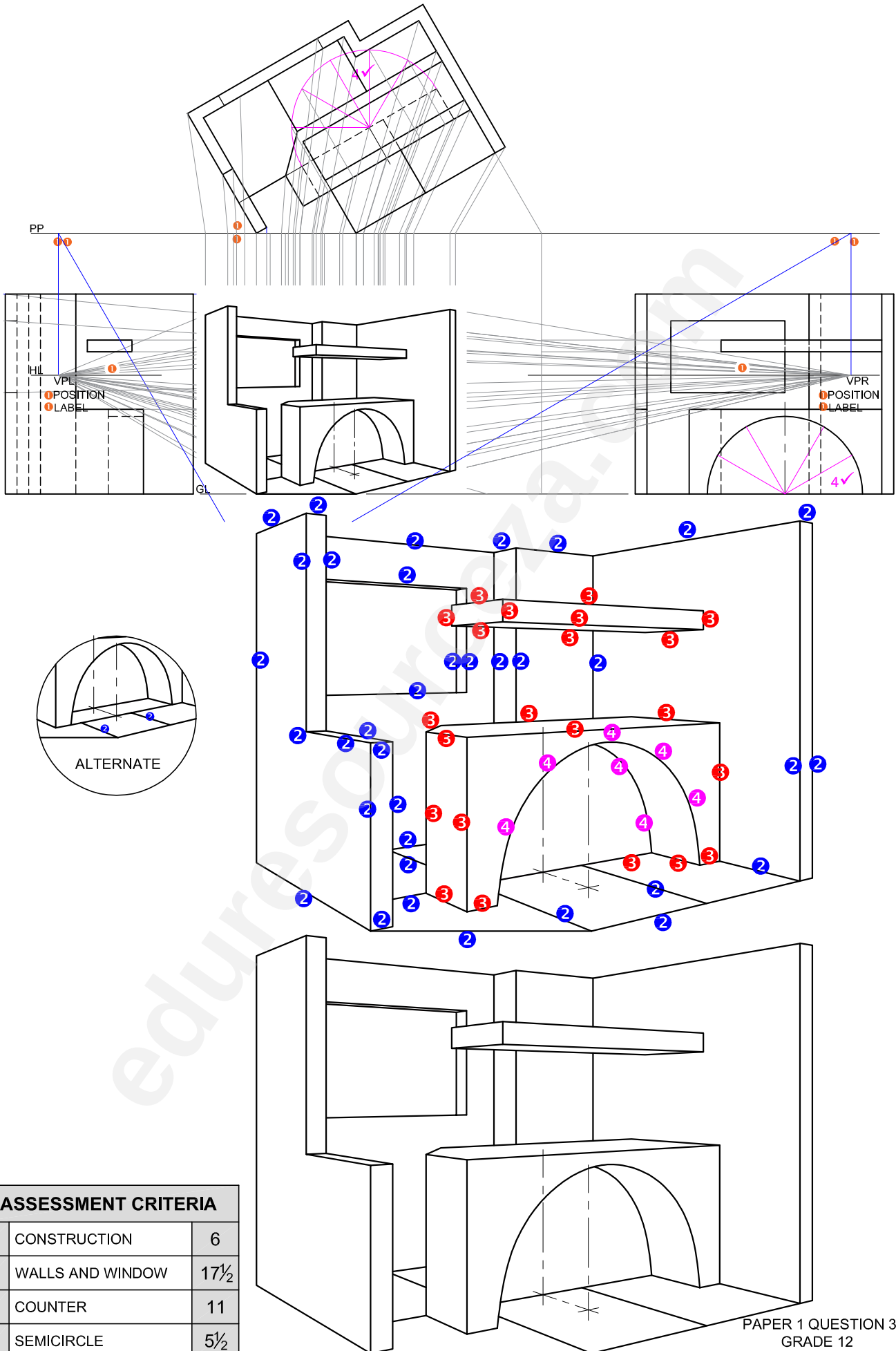
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SP

ASSESSMENT CRITERIA					
1	CONSTRUCTION	6			
2	WALLS AND WINDOW	17½			
3	SERVING AREA	11			
4	SEMICIRCLE	5½			
PENALTIES (-)					
TOTAL		40			

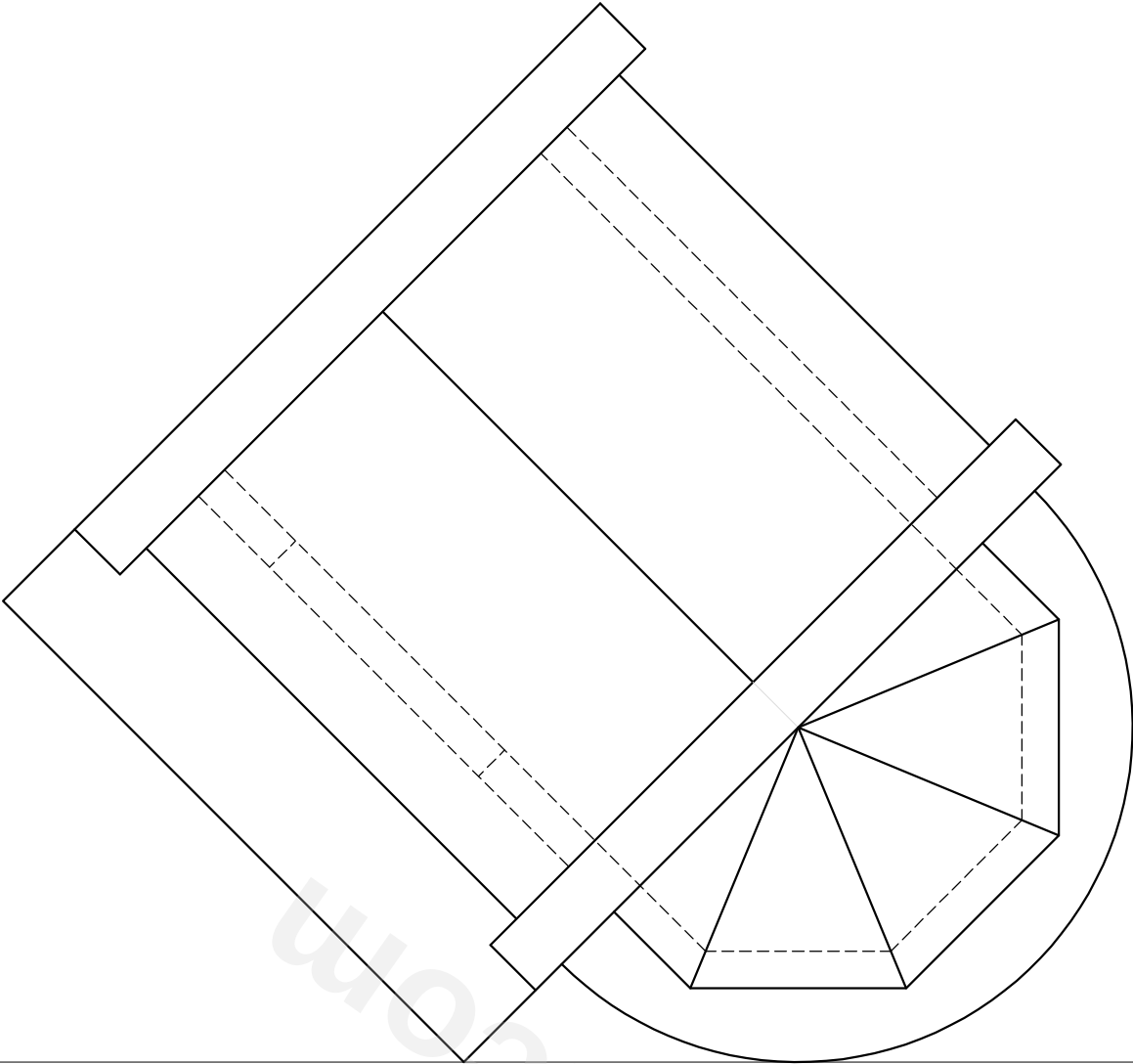
EXAMINATION NUMBER	
EXAMINATION NUMBER	4



**ASSESSMENT CRITERIA**

1	CONSTRUCTION	6
2	WALLS AND WINDOW	17½
3	COUNTER	11
4	SEMICIRCLE	5½
TOTAL		40

PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES



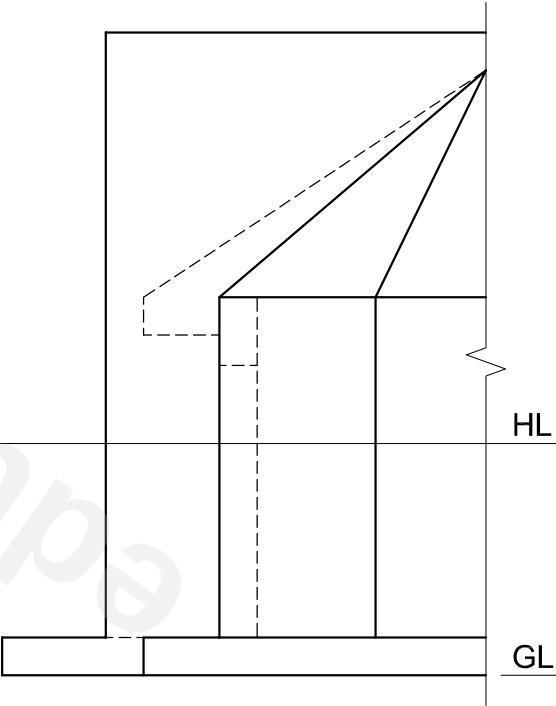
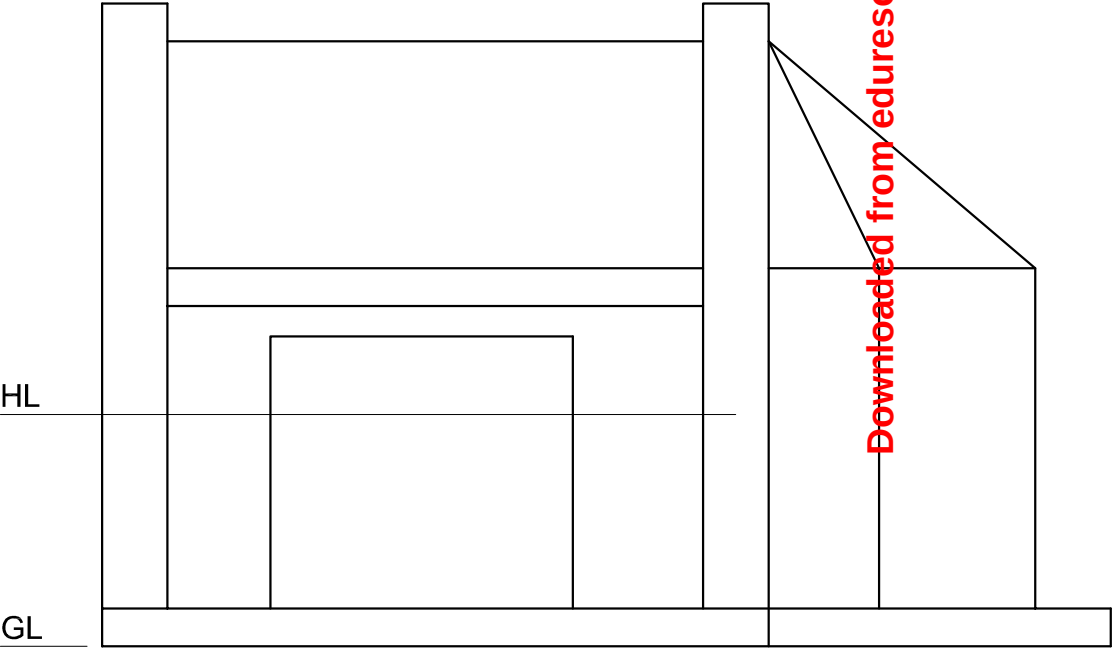
QUESTION 3: PERSPECTIVE

Given:
Two complete views and a partial view of a function hall and the information needed to draw a two-point perspective drawing
PP – Picture plane
HL – Horizon line
GL – Ground line
SP – Station point

- Instructions:**
Complete the perspective drawing.
- Align the drawing sheet with the ground line (GL).
 - Determine and label the vanishing points.
 - Show internal lines seen through the doorway.
 - Show ALL construction.
 - NO hidden detail is required.
- [37]

ASSESSMENT CRITERIA					
1	CONSTRUCTION	6			
2	OUTER STRUCTURE	9 ¹ / ₂			
3	INNER STRUCTURE	8			
4	SIDE STRUCTURE	7			
5	ARCS	6 ¹ / ₂			
PENALTIES (-)					
TOTAL		37			

PP



HL

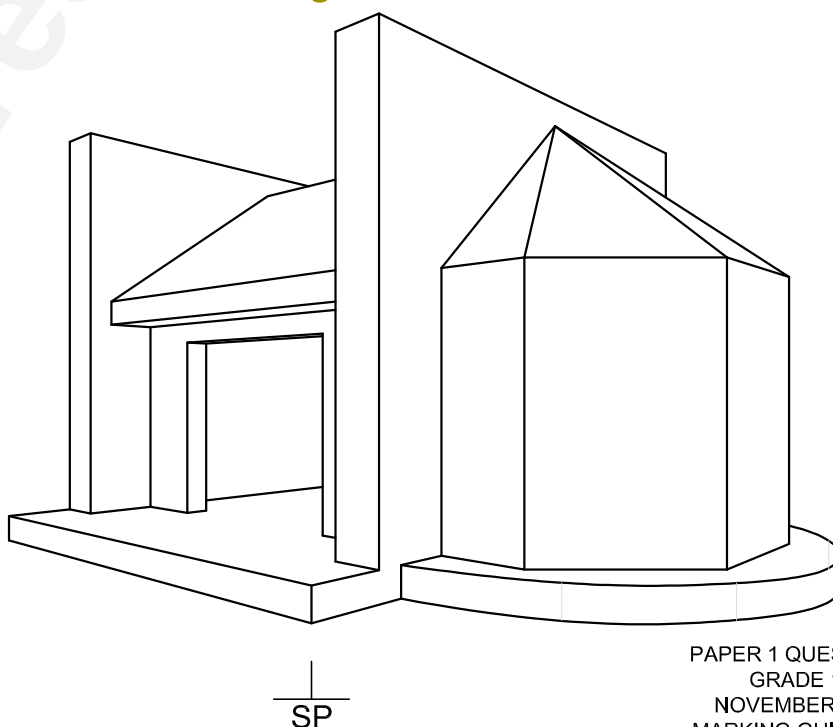
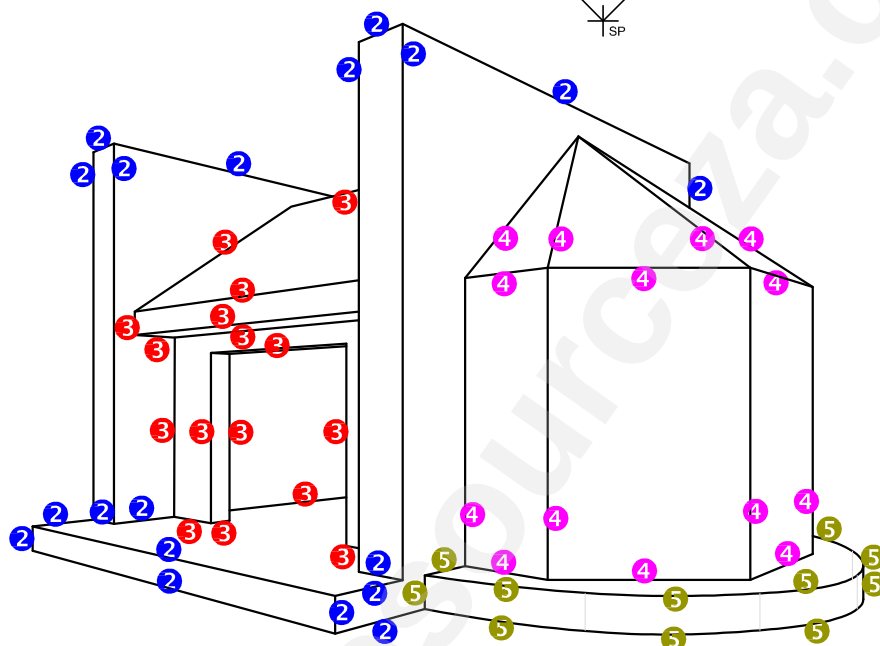
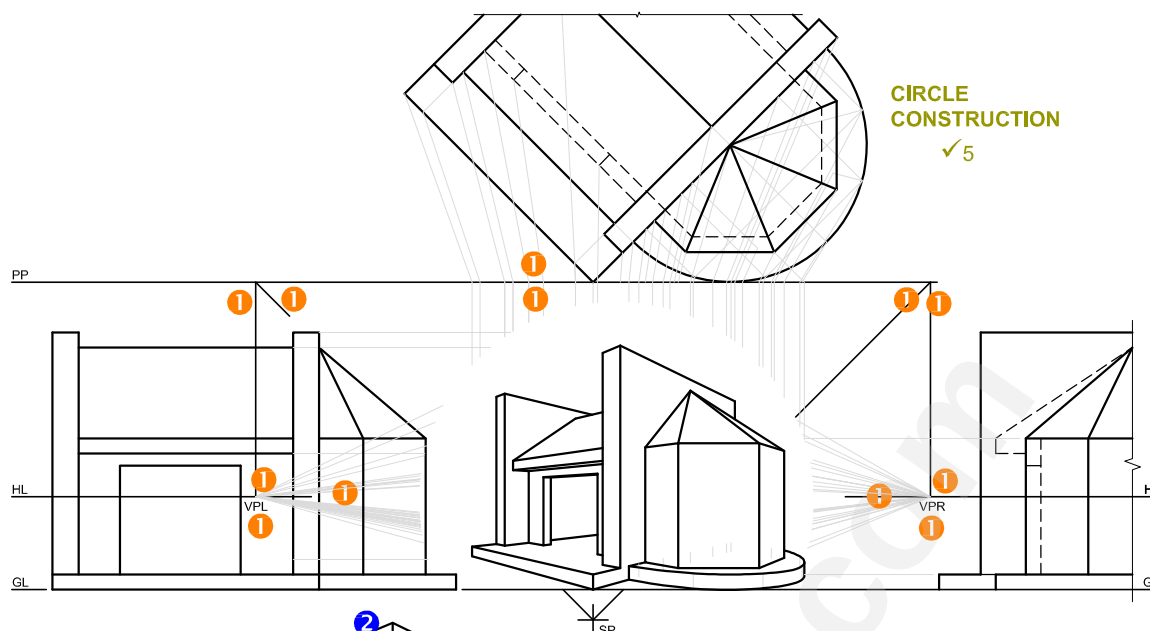
HL

GL

GL

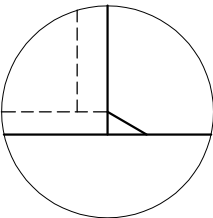
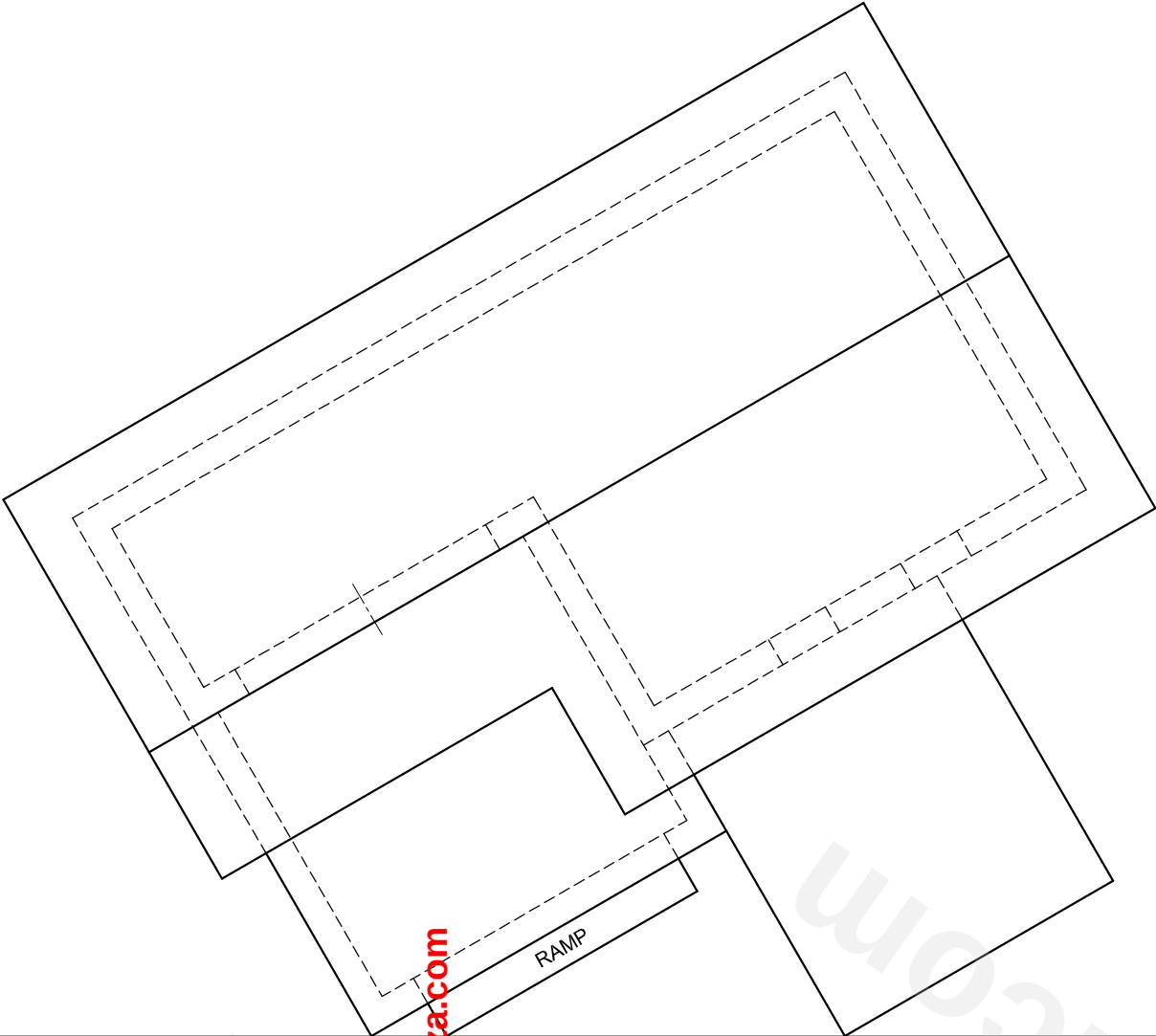
SP





ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	OUTER STRUCTURE	9 $\frac{1}{2}$
3	INNER STRUCTURE	8
4	SIDE STRUCTURE	7
5	ARCS	6 $\frac{1}{2}$
PENALTIES (-)		
TOTAL		37 $\frac{1}{2}$

PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE



DETAIL OF RAMP

PP

QUESTION 3: PERSPECTIVE

Given:
Two views of a house with a pitched roof, the detail of the ramp and the information needed to draw a two-point perspective drawing
PP – Picture plane
HL – Horizon line
GL – Ground line
SP – Station point

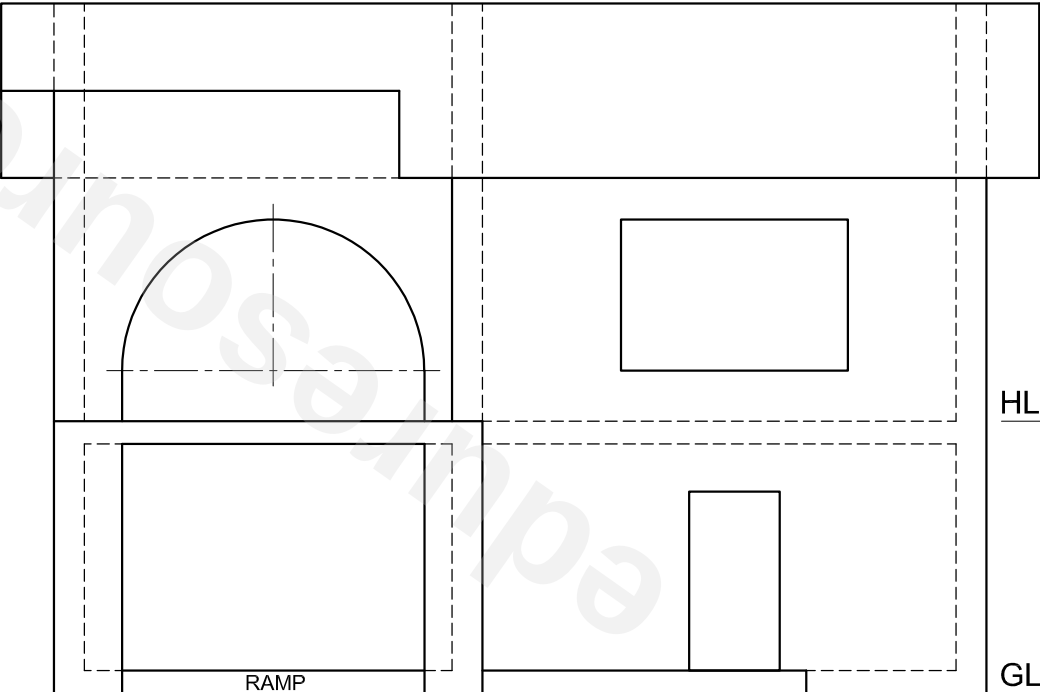
- Instructions:**
Complete the perspective drawing.
- Align the drawing sheet with the ground line (GL).
 - Determine and label the vanishing points.
 - Show ALL construction.
 - NO interior detail is required.
 - NO hidden detail is required.
- [39]

ASSESSMENT CRITERIA					
1	CONSTRUCTION	6			
2	WALLS	13			
3	DOORS + WINDOWS	8 1/2			
4	ROOF	4 1/2			
5	ARCS	7			
PENALTIES (-)					
TOTAL		39			

HL

GL

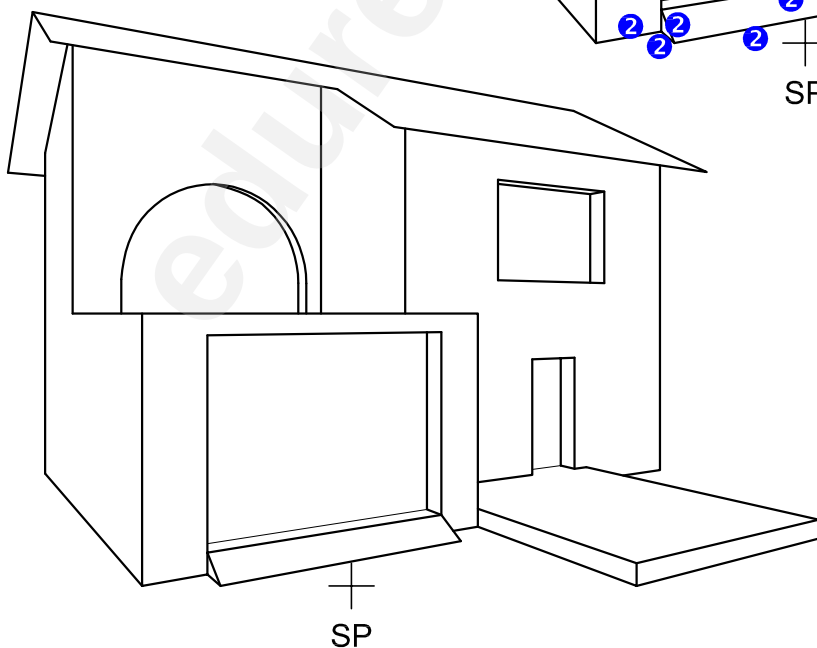
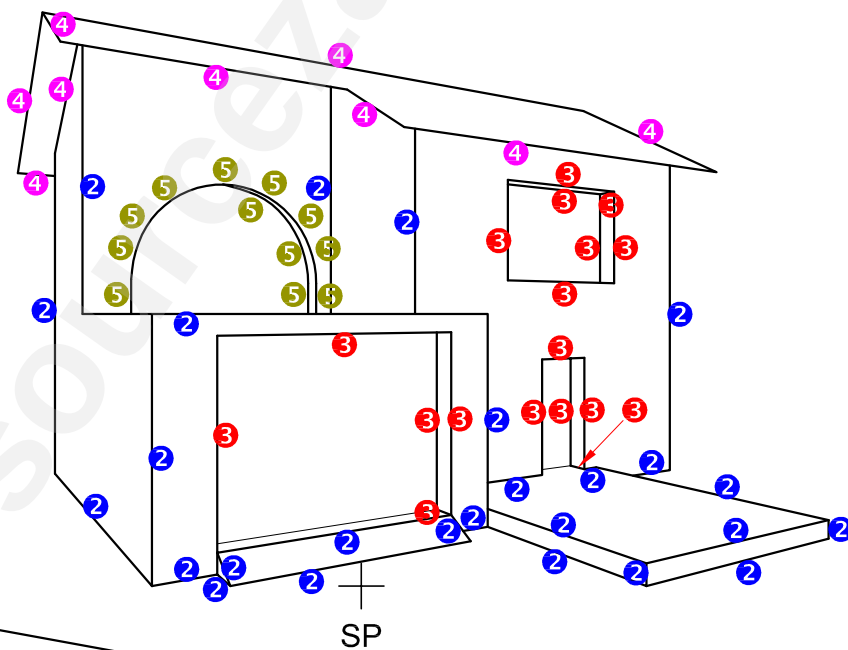
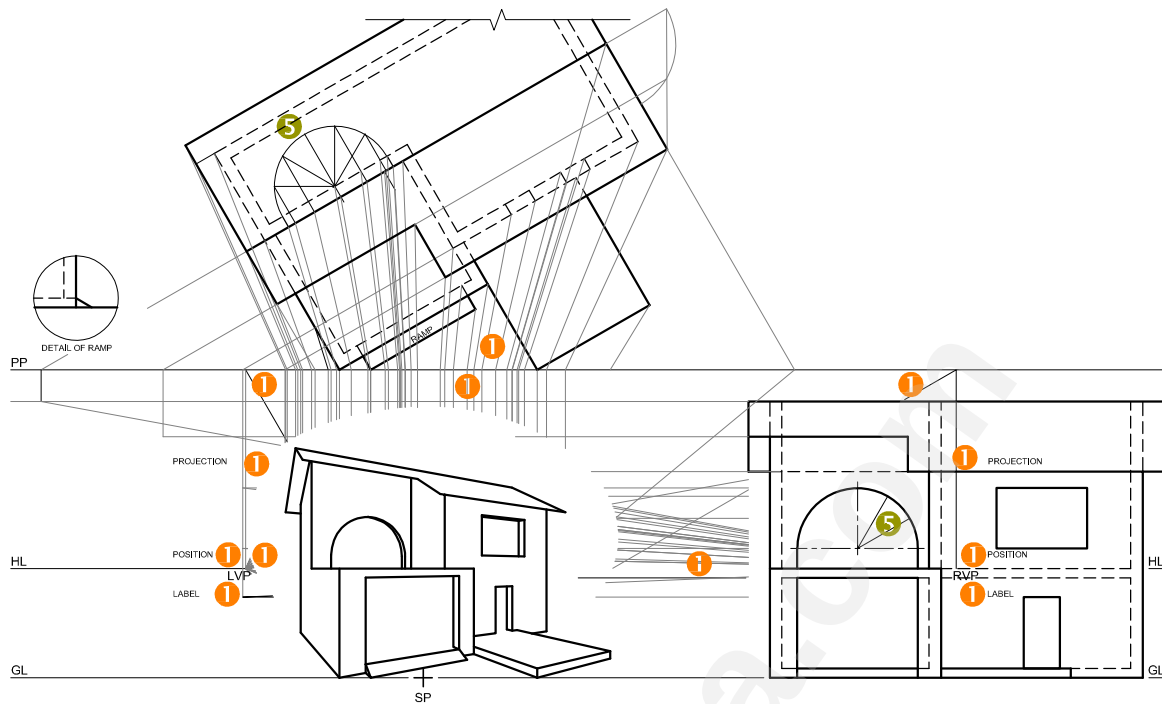
SP



HL

GL

EXAMINATION NUMBER	
EXAMINATION NUMBER	
4	



ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALLS	13
3	DOORS + WINDOWS	8 $\frac{1}{2}$
4	ROOF	4 $\frac{1}{2}$
5	ARCS	7
TOTAL		39

PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2019
MARKING GUIDELINE

GRADE 12 NSC

PAST QUESTIONS ON

CIVIL DRAWING

PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS

INCOMPLETE NORTH ELEVATION

INCOMPLETE FLOOR PLAN

INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL

FEATURES
D DOOR
W1 WINDOW
W2 WINDOW

FIXTURES
WC TOILET
WB WASH BASIN

ELECTRICAL FITTINGS
1. ONE-WAY SWITCH - SINGLE-POLE
2. ONE-WAY SWITCH - DOUBLE-POLE
3. FLUORESCENT LIGHT 2 x 40 W
4. CEILING LIGHT
5. SWITCHED SOCKET OUTLET

NOTE:
THE ARROW SHOWS THE LIGHT CONNECTION TO THE SWITCH.

FLOOR FINISHES
1 TOILET: TILE
2 ROOM 1: CARPET
3 ROOM 2: CARPET
4 ROOM 3: CARPET
5 RECEPTION: TILE

RAINWATER DOWN-PIPE DETAIL

SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR ROOF '2'

SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR ROOF '1'

ROOF NOTES:
ROOF PITCH 30°
200 x 20 mm FASCIA BOARD ON ALL SIDES AND 200 x 20 mm BARGE BOARD ON THE GABLED ENDS
ROOF COVER 15 mm FIBRE CEMENT SHEETING ON 75 x 50 mm PURLINS SPACED ACCORDING TO SCHEMATIC DIAGRAMS
114 x 38 mm ROOF TRUSSES ON 114 x 38 mm WALL PLATES
9 mm CEILING BOARD ON 38 x 38 mm BRANDERING STRIPS @ 600 mm c/c
100 x 150 mm GUTTER ON ALL SIDES

WINDOW AND DOOR SCHEDULE

WINDOW NOTES:
• A = OPENING SIDE
• B = HINGED SIDE
• C = FIXED PANEL
• 150 x 25 mm FIBRE CEMENT SILL UNDER ALL WINDOWS

GULLEY

ROOF COMPONENTS

	38 x 38 mm BRANDERING
	114 x 38 mm WALL PLATE
	75 x 50 mm PURLINS

ELECTRICAL SYMBOLS

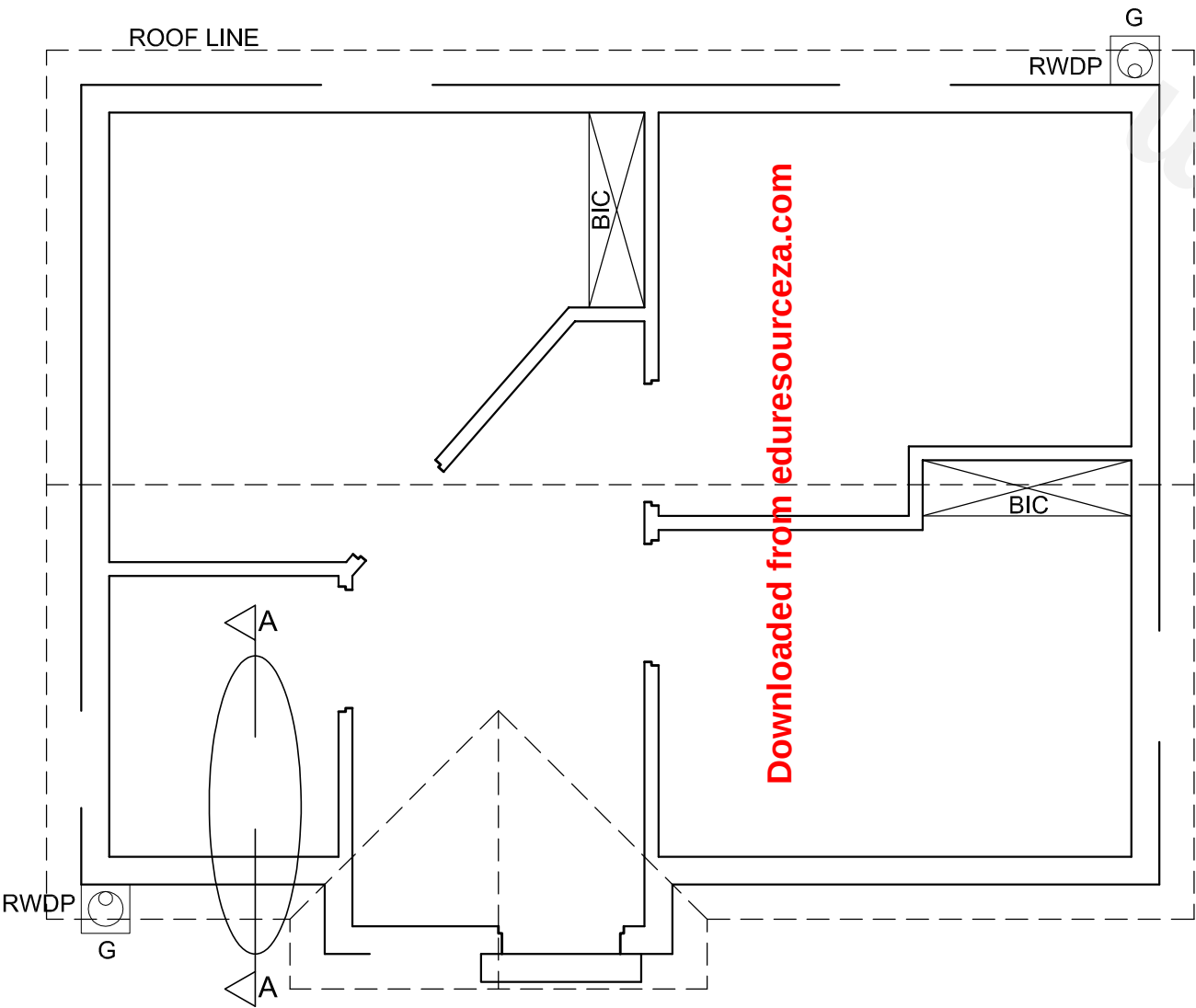
FIXTURES

QUESTION 4: CIVIL DRAWING

- Given:**
- The incomplete north elevation of **new consulting rooms**, showing the walls, the door and window openings, the roof and notes
 - The incomplete floor plan showing the walls, positions of the doors, windows, fixtures and electrical layout
 - The incomplete foundation and external wall detail
 - Room designations and floor finishes
 - The rainwater down-pipe detail
 - Schematic diagrams of the TWO types of roof trusses and roof notes
 - A window and door schedule
 - The gulley detail
 - A table of roof components
 - A table of electrical symbols
 - A table of fixtures
 - The incomplete floor plan of the **new consulting rooms**, drawn to scale 1 : 50, on page 6

- Instructions:**
Answer this question on page 6.
- 4.1 Using the given incomplete floor plan, draw, in first-angle orthographic projection and to scale 1 : 50, the following views of the **new consulting rooms**:
- 4.1.1 **THE COMPLETE FLOOR PLAN**
Add the following features to the drawing:
- ALL doors and windows
 - ALL fixtures as indicated by abbreviations
 - ALL electrical fittings as indicated by numbers
 - ALL hatching detail
- 4.1.2 **THE COMPLETE NORTH ELEVATION**
Show the following features on the drawing:
- The outside walls, door and window detail
 - The roof detail, including the fascia boards, barge boards, gutters, rainwater down-pipe and gulley
 - The finished floor level
- 4.2 In the space provided, draw, to **scale 1 : 20**, a **DETAILED SECTION** on cutting plane A-A of the area in the ellipse shown on the incomplete floor plan.
- Show the following features on the drawing:**
- The complete foundation and external wall detail
 - The roof detail, including the fascia board and gutter
 - ALL features and fixtures to the left of the section
 - ALL hatching detail. ONLY the substructure hatching may be drawn in neat freehand.

- Label the following:**
- The north elevation
 - The room designations and floor finishes
 - Using the correct abbreviations, label the following features in the correct view: ground level, damp-proof course and the finished floor level
- NOTE:**
- Planning is essential.
 - ALL drawings must comply with the **guidelines** and **graphical symbols** as contained in the **SANS 10143**. [96]



FLOOR PLAN
SCALE 1 : 50

DETAILED SECTION ON A-A
SCALE 1 : 20



FOR OFFICIAL USE ONLY		
INCORRECT SCALE(S)		
NON-ALIGNMENT OF VIEWS		
FEATURES DRAWN IN FREEHAND		
TOTAL PENALTIES (-)		

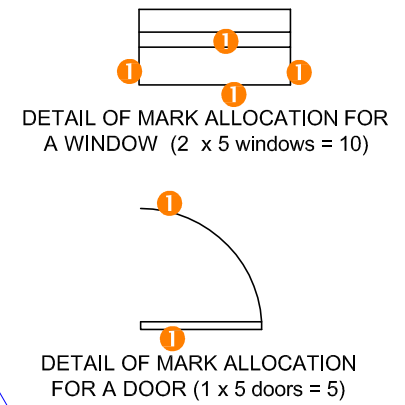
MARK ALLOCATION FOR SECTION OF ROOF (4.2 No. 1)										
A	B	C	D	E	F	G	H	I	J	

ASSESSMENT CRITERIA				
FLOOR PLAN				
		POSSIBLE	OBTAINED	SIGN
1	DOORS + WINDOWS	15		
2	ELECTRICAL	9		
3	FIXTURES	4		
4	HATCHING	4		
5	LABELS	5		
SUBTOTAL		37		

NORTH ELEVATION				
1	ROOF	8½		
2	WALLS + RWDP + FFL + GULLEY	6½		
3	DOOR + WINDOW	6		
4	LABELS	1½		
SUBTOTAL		22½		

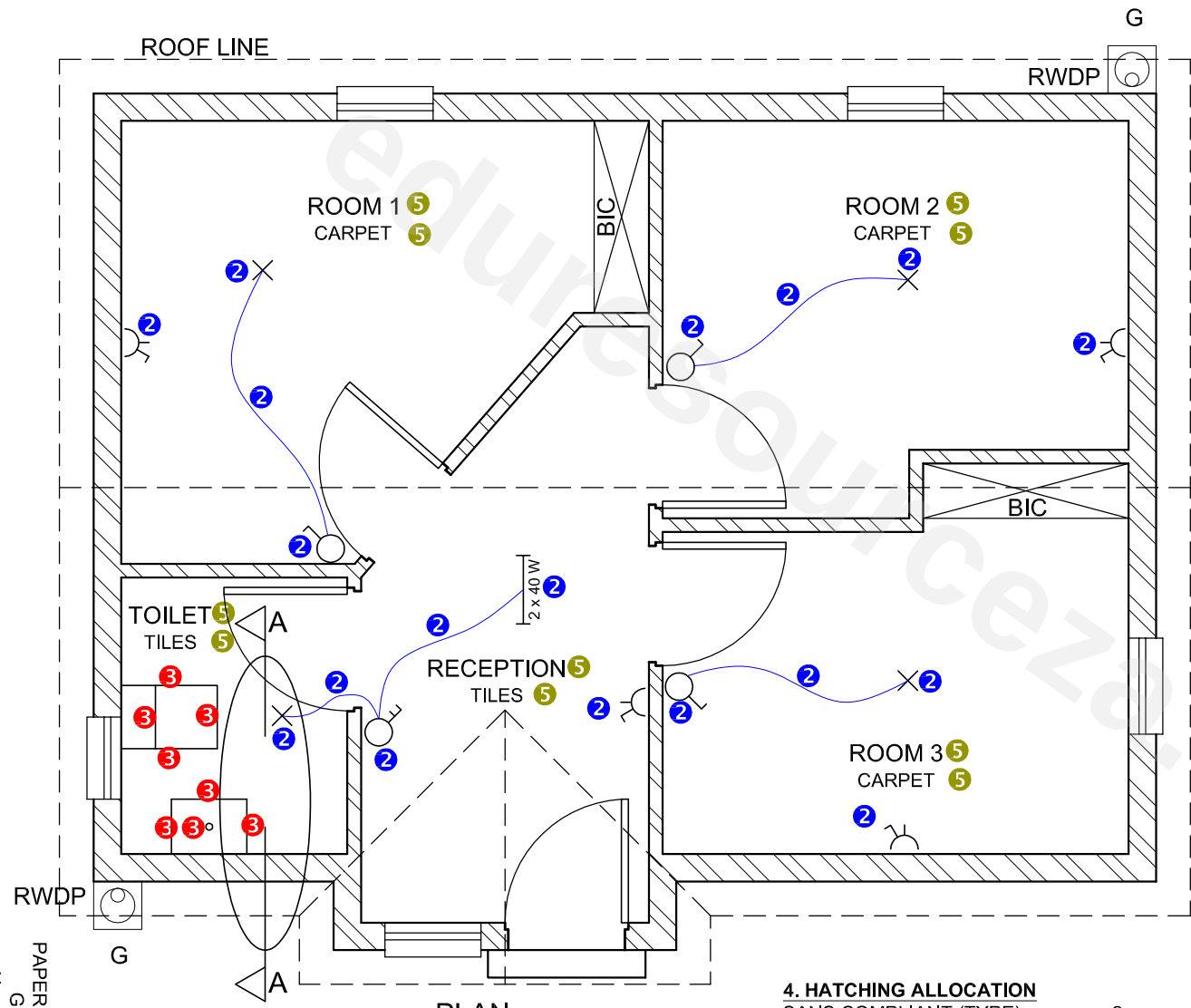
DETAILED SECTION				
1	ROOF DETAIL	11		
2	FOUNDATION + WALL + RWDP + GULLEY + LINE BREAK	11		
3	WINDOW + WC + WB	9½		
4	HATCHING	4		
5	LABELS	1		
SUBTOTAL		36½		
TOTAL		96		

TOTAL PENALTIES (-)				
GRAND TOTAL				
EXAMINATION NUMBER				
				6
EXAMINATION NUMBER				

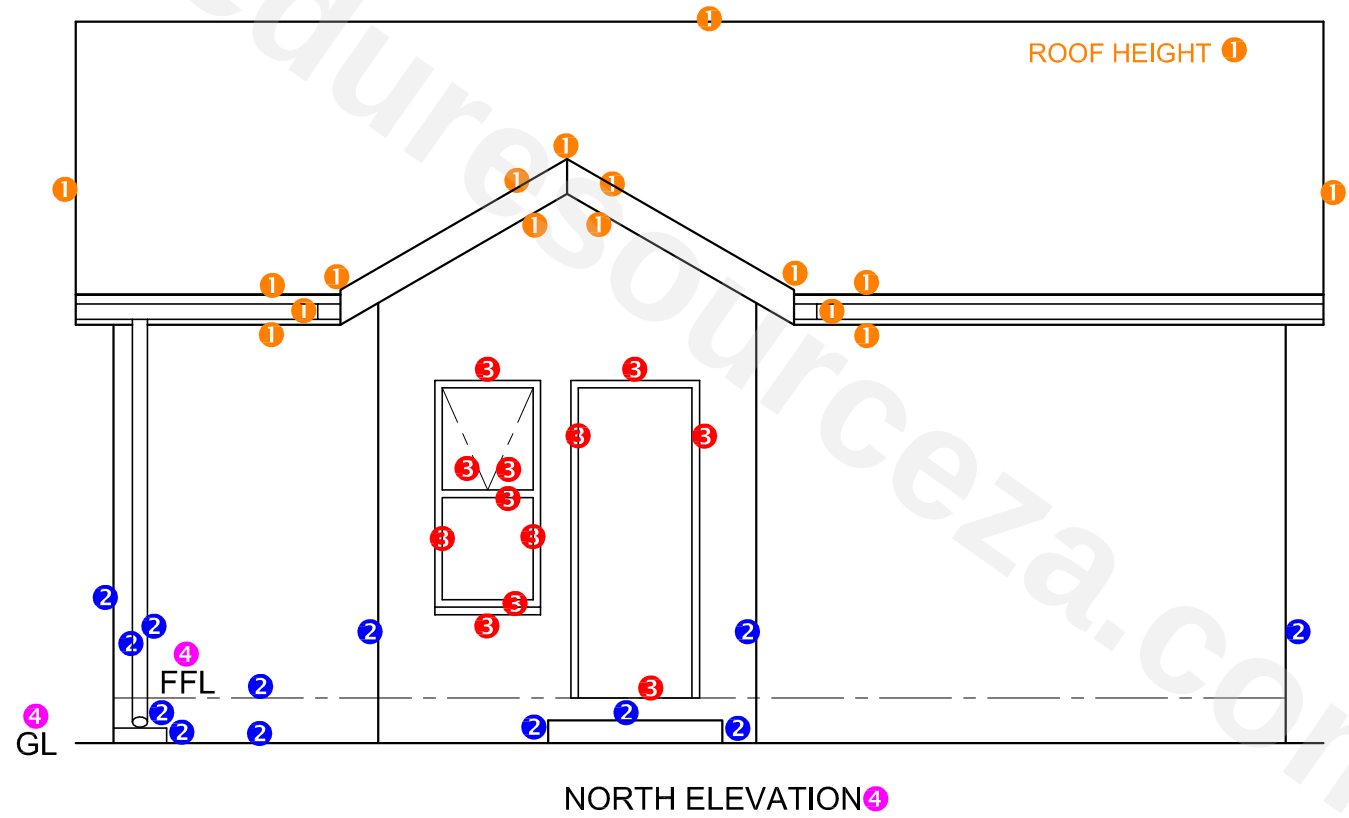


AUXILIARY VIEW FOR ROOF HEIGHT

ASSESSMENT CRITERIA		
FLOOR PLAN		
		POSSIBLE
1	DOORS + WINDOWS	15
2	ELECTRICAL	9
3	FIXTURES	4
4	HATCHING	4
5	LABELS	5
SUBTOTAL		37



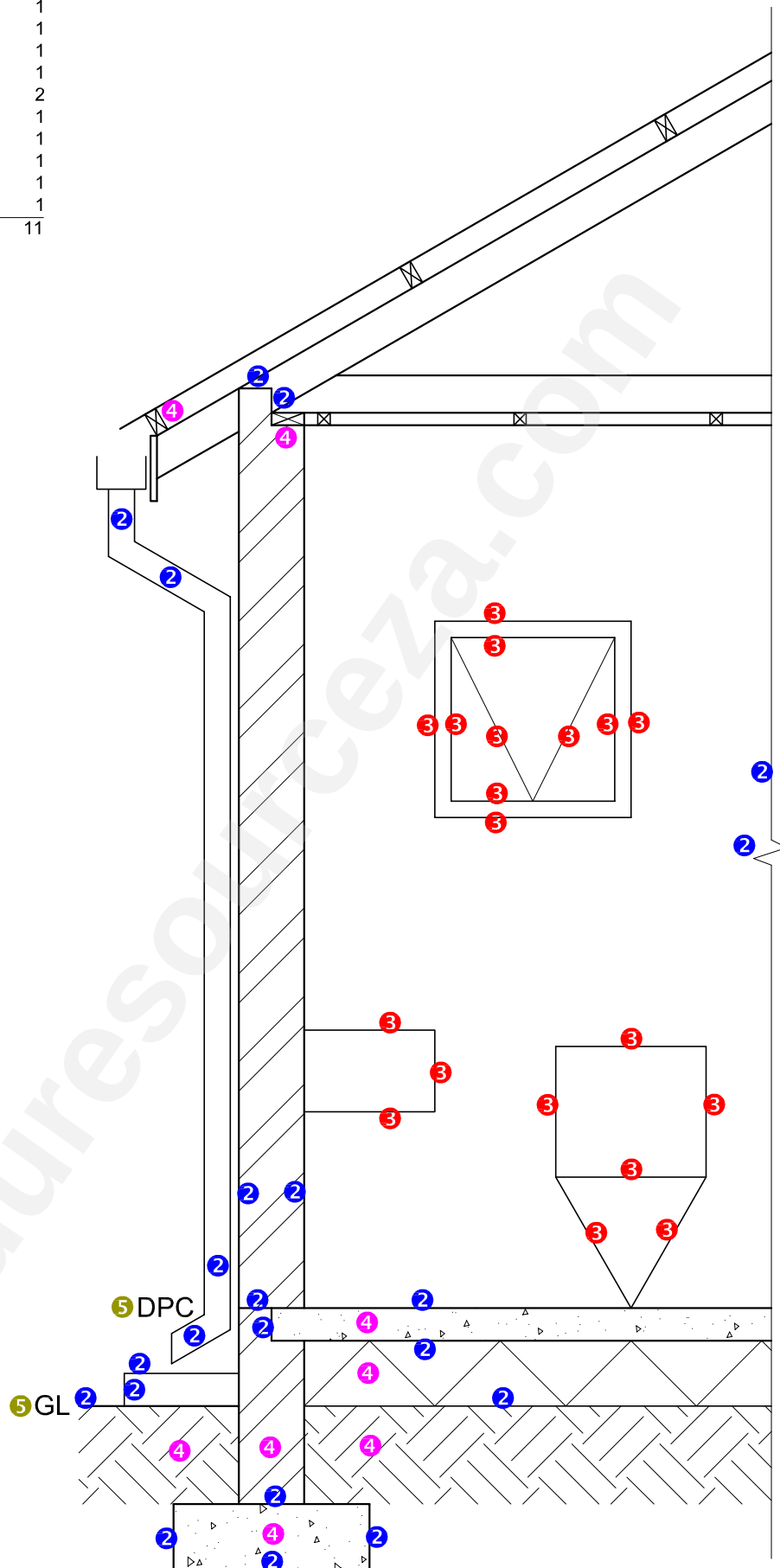
4. HATCHING ALLOCATION	
SANS COMPLIANT (TYPE)	2
HATCHING CORRECTLY APPLIED	2
TOTAL	4



ASSESSMENT CRITERIA		
NORTH ELEVATION		
1	ROOF	8½
2	WALLS + RWDP + FFL + GULLY	6½
3	DOOR + WINDOW	6
4	LABELS	1½
SUBTOTAL		22½

1. MARK ALLOCATION FOR ROOF

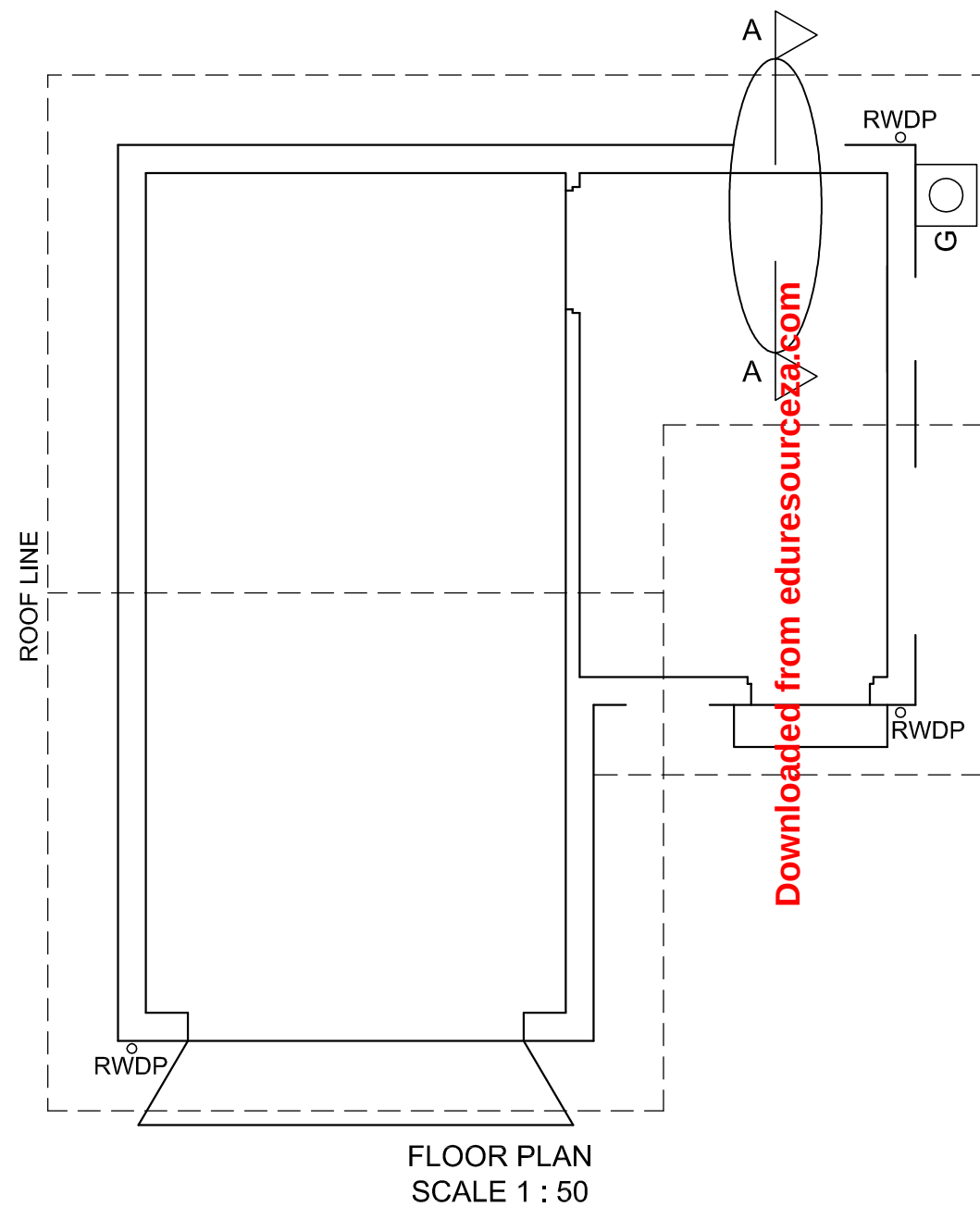
A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN	1
D: PURLIN SPACING	1
E: TRUSS	2
F: FASCIA BOARD	1
G: WALL PLATE	1
H: BRANDING	1
I: CEILING BOARD	1
J: GUTTER	1
TOTAL	11

**ASSESSMENT CRITERIA****DETAILED SECTION**

1	ROOF DETAIL	11
2	FOUNDATION + WALL + RWDP + GULLEY + LINE BREAK	11
3	WINDOW + WC + WB	9½
4	HATCHING	4
5	LABELS	1
SUBTOTAL		36½

DETAILED SECTION
SCALE 1 : 20

PAPER 1 QUESTION 4
GRADE 12
November 2015
MEMORANDUM



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DETAILED SECTION ON A-A
SCALE 1 : 20

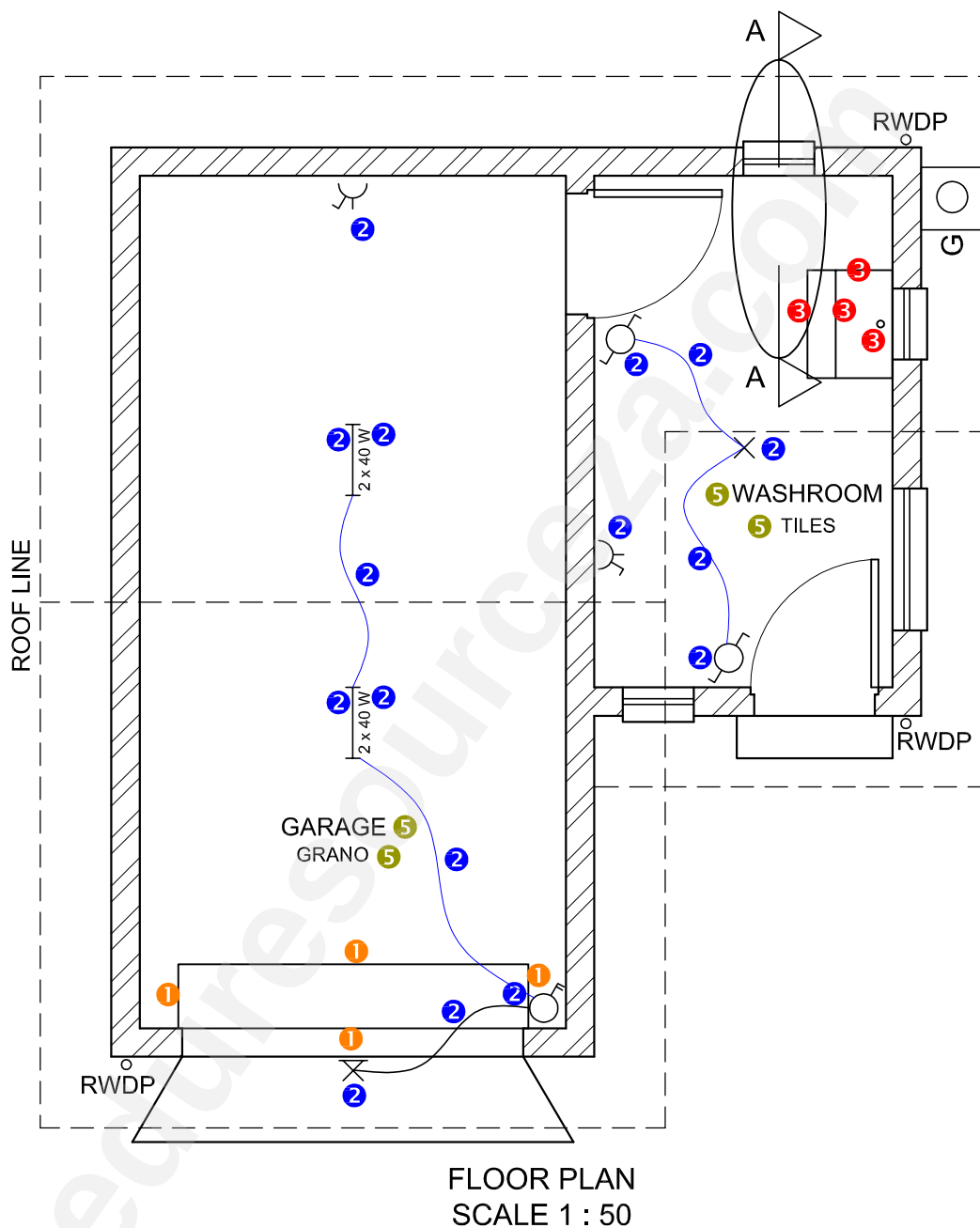
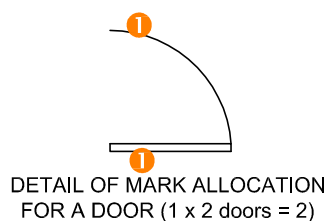
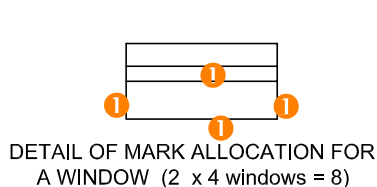


FOR OFFICIAL USE ONLY		
INCORRECT SCALE(S)		
NON-ALIGNMENT OF VIEWS		
VIEW(S) ROTATED		
SECTION VIEWED INCORRECTLY		
INCORRECT LETTERING		
TOTAL PENALTIES (-)		

[illegible]

ASSESSMENT CRITERIA					
FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATE
1	DOORS + WINDOWS	12			
2	ELECTRICAL	8			
3	FIXTURE	2			
4	HATCHING	4			
5	LABELS	2			
SUBTOTAL		28			
SOUTH-EAST ELEVATION					
1	ROOF + RWDP	9			
2	WALLS + FFL + GULLEY + STEP + RAMP	6 $\frac{1}{2}$			
3	DOOR + WINDOW	7 $\frac{1}{2}$			
4	LABELS	2			
SUBTOTAL		25			
DETAILED SECTION					
1	ROOF DETAIL + RWDP	16			
2	FOUNDATION + WALL + SLAB + LINE BREAK	9			
3	WINDOW + WT	8			
4	HATCHING	4			
5	LABELS	1			
SUBTOTAL		38			
TOTAL		91			
TOTAL PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					6

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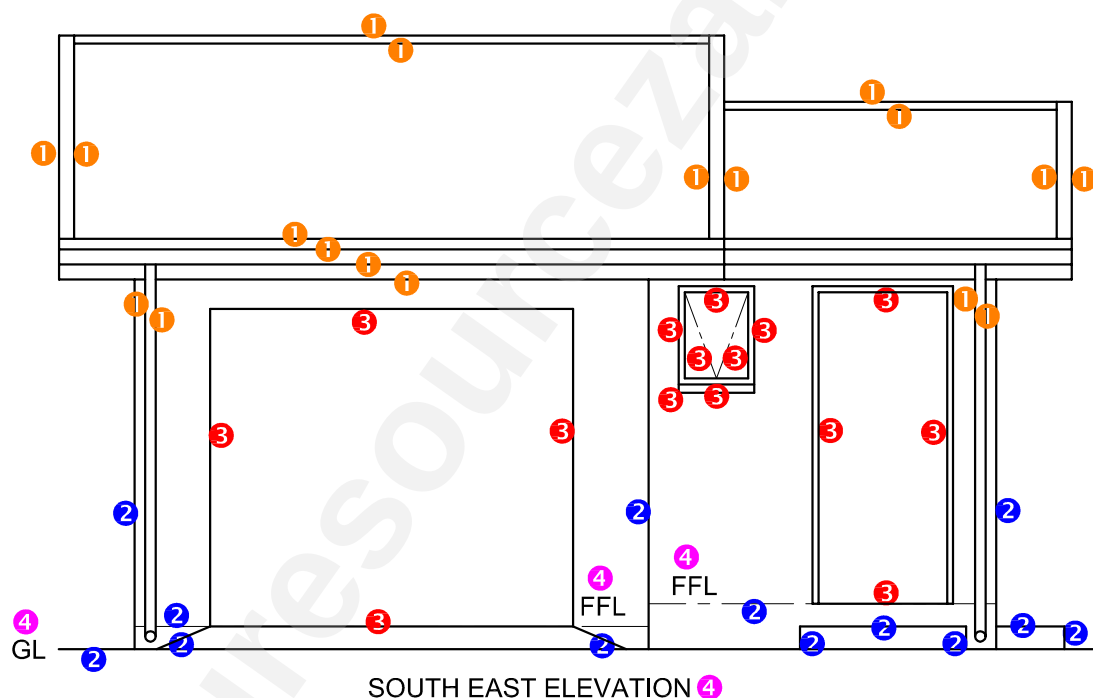
ASSESSMENT CRITERIA

FLOOR PLAN

1	DOORS + WINDOWS	12
2	ELECTRICAL	8
3	FIXTURES	2
4	HATCHING	4
5	LABELS	2
SUBTOTAL		28

4 HATCHING ALLOCATION

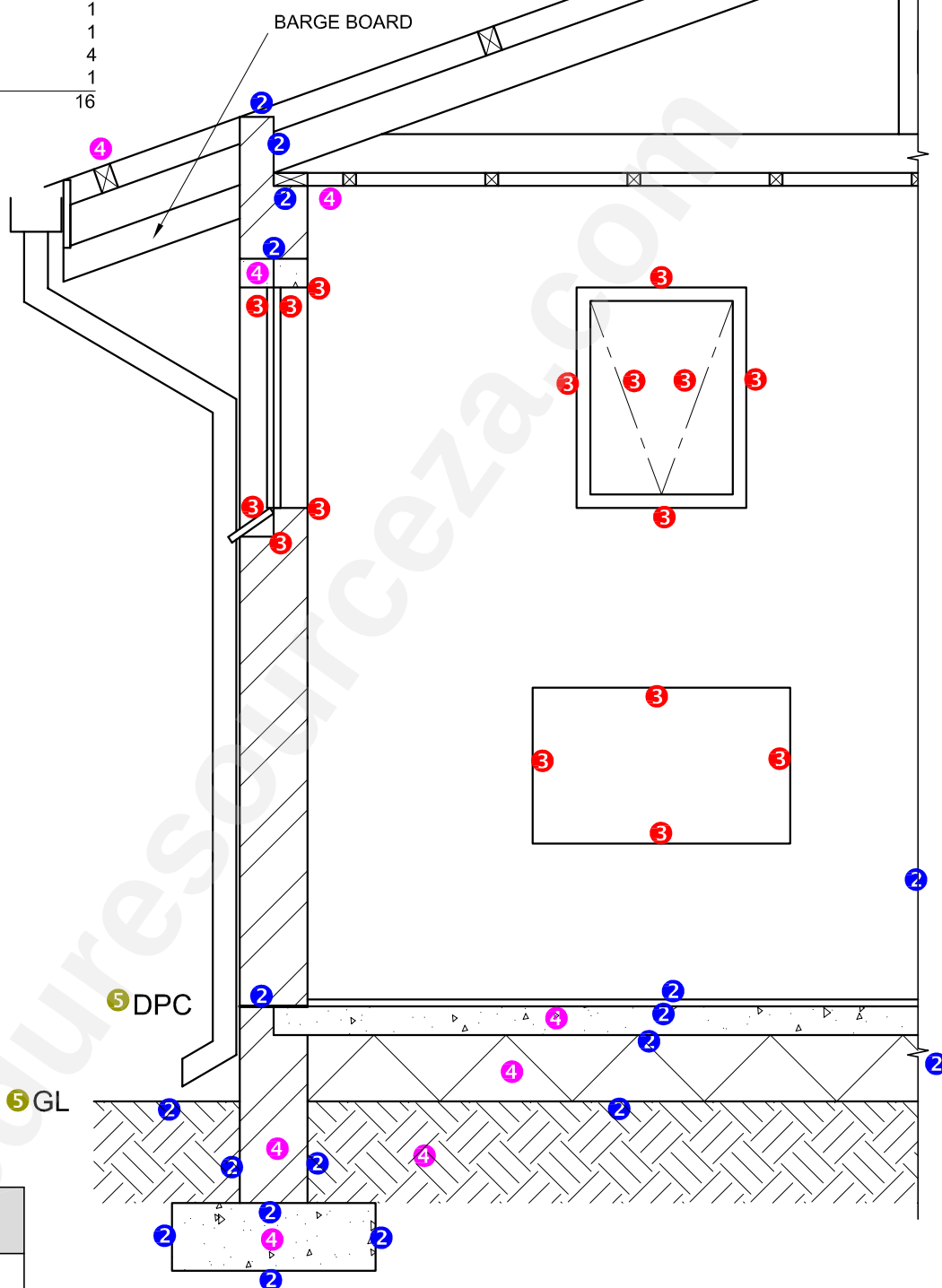
SANS COMPLIANT (TYPE)	2
HATCHING CORRECTLY APPLIED	2
TOTAL	4



ASSESSMENT CRITERIA		
SOUTH EAST ELEVATION		
1	ROOF + RWDP	9
2	WALLS + FFL + GULLEY + STEP + RAMP	6½
3	DOOR + WINDOW	7½
4	LABELS	2
SUBTOTAL		25

1. MARK ALLOCATION FOR ROOF

A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLINS	1
D: PURLIN SPACING	1
E: TRUSS	2
F: FASCIA BOARD	1
G: BARGE BOARD	1
H: WALL PLATE	1
I: BRANDING	1
J: CEILING BOARD	1
K: RWDP	4
L: GUTTER	1
TOTAL	16

**ASSESSMENT CRITERIA****DETAILED SECTION**

1	ROOF DETAIL + RWDP	16
2	FOUNDATION + WALL + LINE BREAK	9
3	WINDOW + WASHTUB	8
4	HATCHING	4
5	LABELS	1
SUBTOTAL		38

DETAILED SECTION ON A-A
SCALE 1 : 20

PAPER 1 QUESTION 4
GRADE 12
Feb.-Mar.2016
MEMORANDUM

INCOMPLETE SOUTH ELEVATION

ROOM DESIGNATIONS

ROOF COMPONENTS	
	300 x 75 mm BARGE BOARD
	220 x 20 mm FASCIA BOARD

ELECTRICAL SYMBOLS	

FEATURES

D1 DOOR
D2 SLIDING DOOR
W1 WINDOW
W2 WINDOW
W3 WINDOW

FIXTURES

WC TOILET
WB WASH BASIN
SH SHOWER
S SINK

ELECTRICAL FITTINGS

1. ONE-WAY SWITCH - SINGLE-POLE
2. ONE-WAY SWITCH - DOUBLE-POLE
3. FLUORESCENT LIGHT 2 x 40 W
4. CEILING LIGHT
5. WALL-MOUNTED LIGHT
6. SWITCHED SOCKET OUTLET

NOTE:
THE ARROW SHOWS THE LIGHT CONNECTION TO THE SWITCH.

INCOMPLETE FLOOR PLAN

SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR THE GARAGE

ROOF NOTES:
ROOF PITCH 20°

115 x 38 mm ROOF TRUSSES ON
115 x 38 mm WALL PLATES

ROOF OVERHANG 300 mm TO END OF
ROOF TRUSSES

ROOF COVER 40 mm IBR SHEETING ON
75 x 50 mm PURLINS @ 1000 mm c/c

220 x 20 mm FASCIA BOARD ON ALL
SIDES AND 300 x 75 mm BARGE BOARD
ON GABLED ENDS

100 x 150 mm GUTTERS ON ALL SIDES

9 mm CEILING BOARDS ON 38 x 38 mm
BRANDERING STRIPS @ 300 mm c/c

INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL OF THE LIVING AREAS

INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL OF THE GARAGE

DOOR AND WINDOW SCHEDULE	

WINDOW NOTES:

- A = OPENING SIDE
- B = FIXED PANEL
- ALL FRAMES 40 mm
- 150 x 20 mm FIBRE CEMENT SILL UNDER ALL WINDOWS

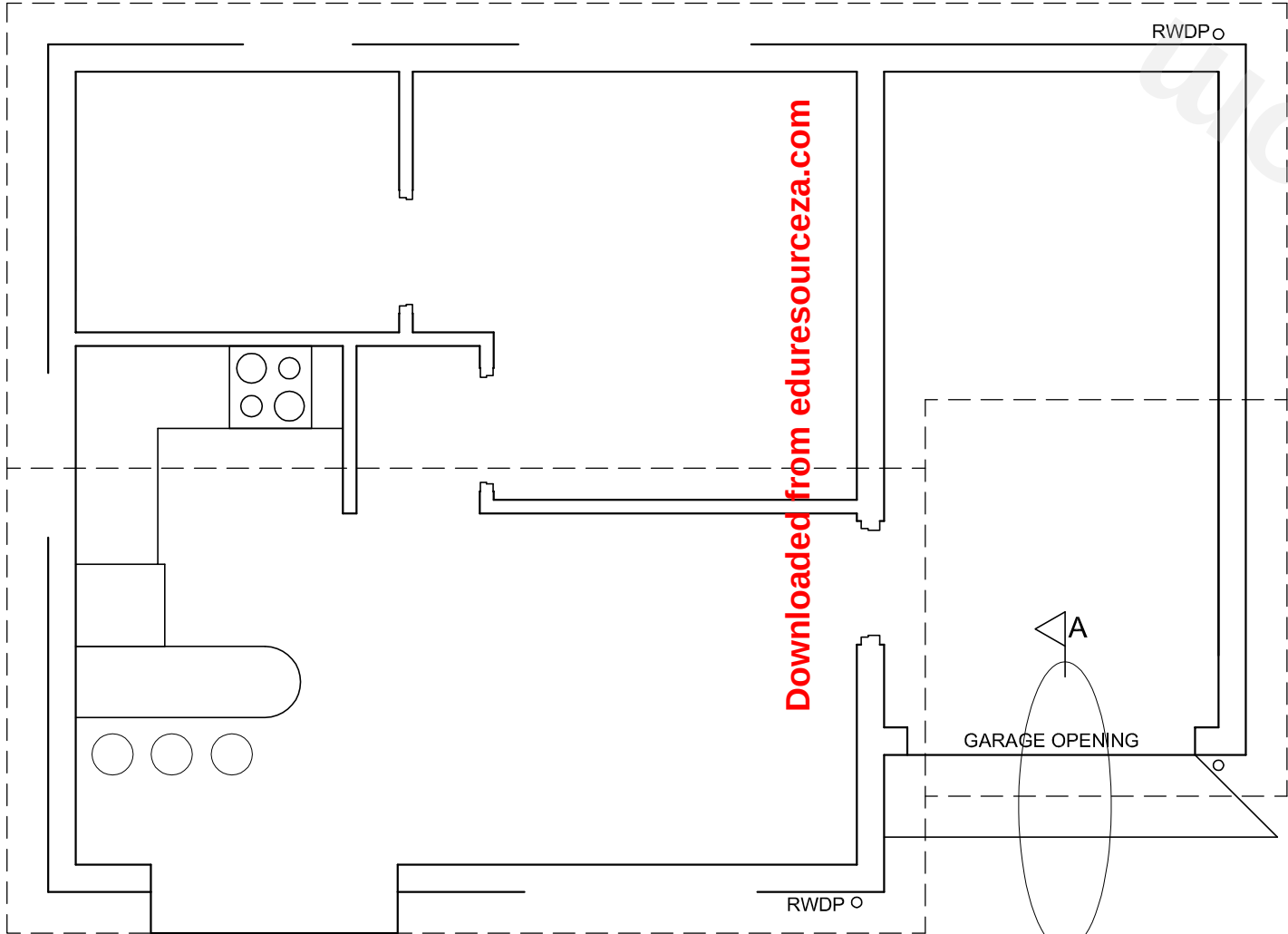
FIXTURES	

QUESTION 4: CIVIL DRAWING

- Given:**
- The incomplete south elevation of a **new house**, showing the walls, the door, window and garage openings, the roof and notes
 - The incomplete floor plan showing the walls, positions of the doors, windows, fixtures and the electrical layout
 - A schematic diagram of a roof truss and roof notes
 - The incomplete foundation and external wall details of the living areas and the garage
 - Room designations and floor finishes
 - The rainwater down-pipe
 - A table of roof components
 - A table of electrical symbols
 - A door and window schedule
 - A table of fixtures
 - The incomplete floor plan of the **new house**, drawn to scale 1 : 50, and the incomplete foundation and the break line of the detailed section, drawn to scale 1 : 20, on page 6

- Instructions:**
- Answer this question on page 6.
- 4.1 Using the given incomplete floor plan, draw, in first-angle orthographic projection and to scale 1 : 50, the following views of the **new house**:
- 4.1.1 **THE COMPLETE FLOOR PLAN**
- Add the following features to the drawing:**
- ALL doors and windows
 - ALL fixtures as indicated by the abbreviations
 - ALL electrical fittings as indicated by the numbers
 - ALL hatching detail
- 4.1.2 **THE COMPLETE SOUTH ELEVATION**
- Show the following features on the drawing:**
- The outside walls, door and window details and the garage opening
 - The roof detail, including the fascia boards, barge boards, gutters and rainwater down-pipes
 - The finished floor level
- 4.2 Using the incomplete foundation and break line on page 6, draw, to **scale 1 : 20**, a **DETAILED SECTION** on cutting plane A-A of the area in the ellipse shown on the incomplete floor plan.
- Show the following features on the drawing:**
- The foundation, wall and garage opening detail
 - The roof detail, including the fascia board and gutter
 - ALL the external features of the **new house** to the left (west) of the ellipse
 - ALL hatching detail. ONLY the substructure hatching may be drawn in neat freehand.

- Label the following:**
- The south elevation
 - The room designations and floor finishes
 - Ground level (use the correct abbreviation and show it on ALL the relevant views)
- NOTE:**
ALL drawings must comply with the **guidelines** and **graphical symbols** contained in the **SANS 10143**. [93]



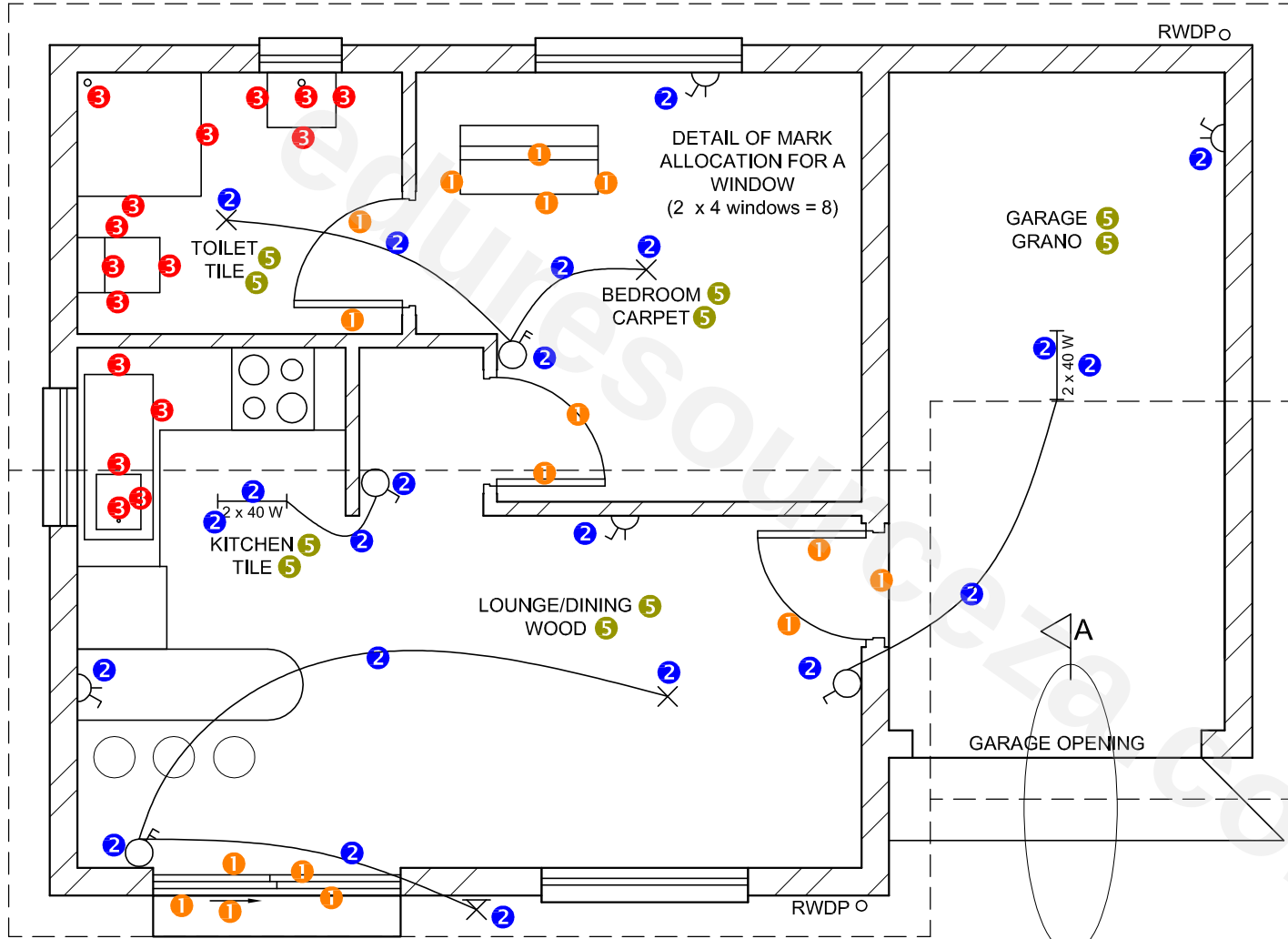
FLOOR PLAN
SCALE 1 : 50



1. MARK ALLOCATION FOR SECTION OF ROOF		FOR OFFICIAL USE ONLY	
A (1)		INCORRECT SCALE	
B (1)		INCORRECT POSITIONING OF VIEWS	
C (1)		NON-ALIGNMENT OF VIEWS	
D (2)			
E (1)			
F (1)			
G (1)			
H (1)			
I (2)			
TOTAL		TOTAL	

ASSESSMENT CRITERIA					
FLOOR PLAN					
1	DOORS + WINDOWS	14			
2	ELECTRICAL	11			
3	FIXTURES	8			
4	HATCHING	4			
5	LABELS	5			
SUBTOTAL		42			
SOUTH ELEVATION					
1	ROOF	5 1/2			
2	WALLS + RWDP + FFL	7			
3	DOOR + WINDOW	10			
4	LABELS	1			
SUBTOTAL		23 1/2			
DETAILED SECTION					
1	ROOF	11			
2	FOUNDATION + WALLS + SLAB	7			
3	GUTTER + RWDP	4			
4	HATCHING	5			
5	LABELS	1/2			
SUBTOTAL		27 1/2			
TOTAL		93			
PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					6

SECTION A-A
SCALE 1 : 20



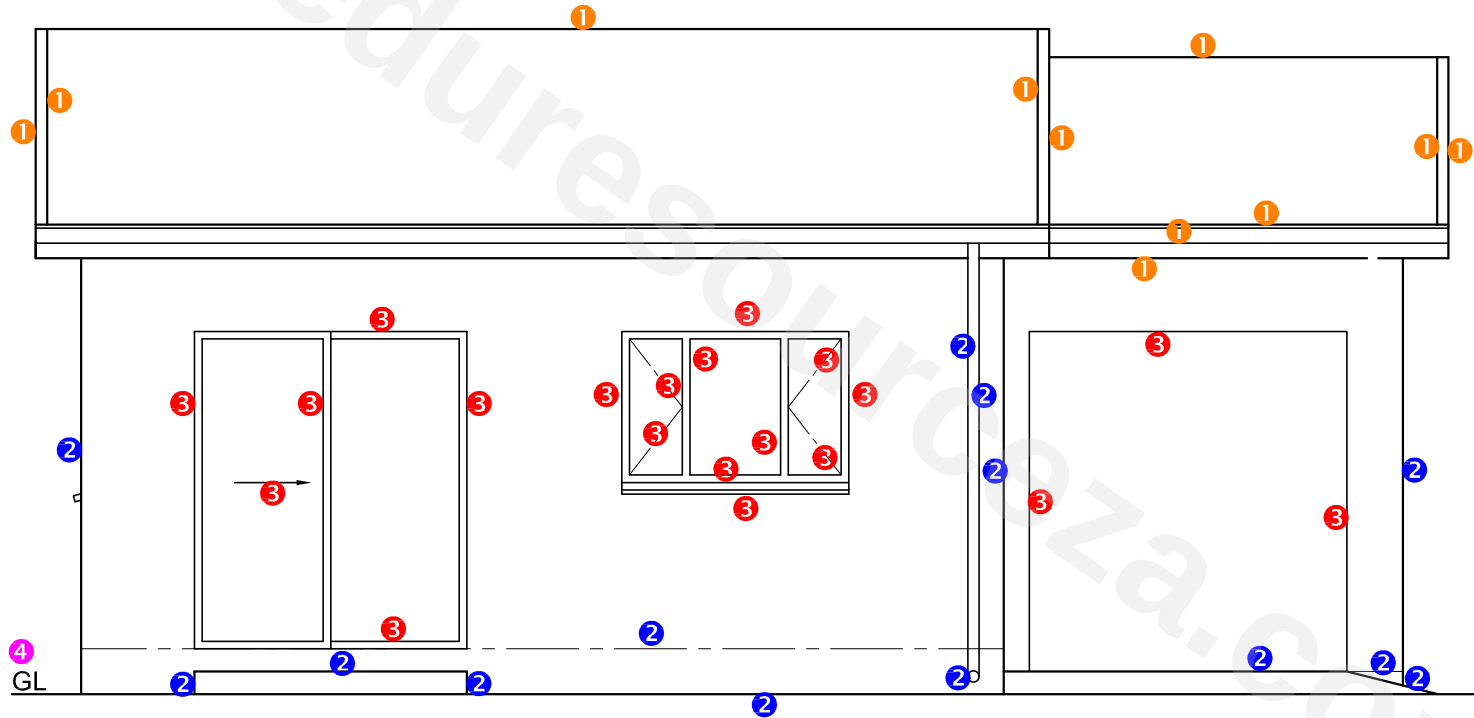
FLOOR PLAN
SCALE 1 : 50

4. HATCHING ALLOCATION

SANS COMPLIANT (TYPE)	2
HATCHING CORRECTLY APPLIED	2
TOTAL	4

PAPER 1 QUESTION 4.1.1
GRADE 12
NOVEMBER 2016
MEMORANDUM

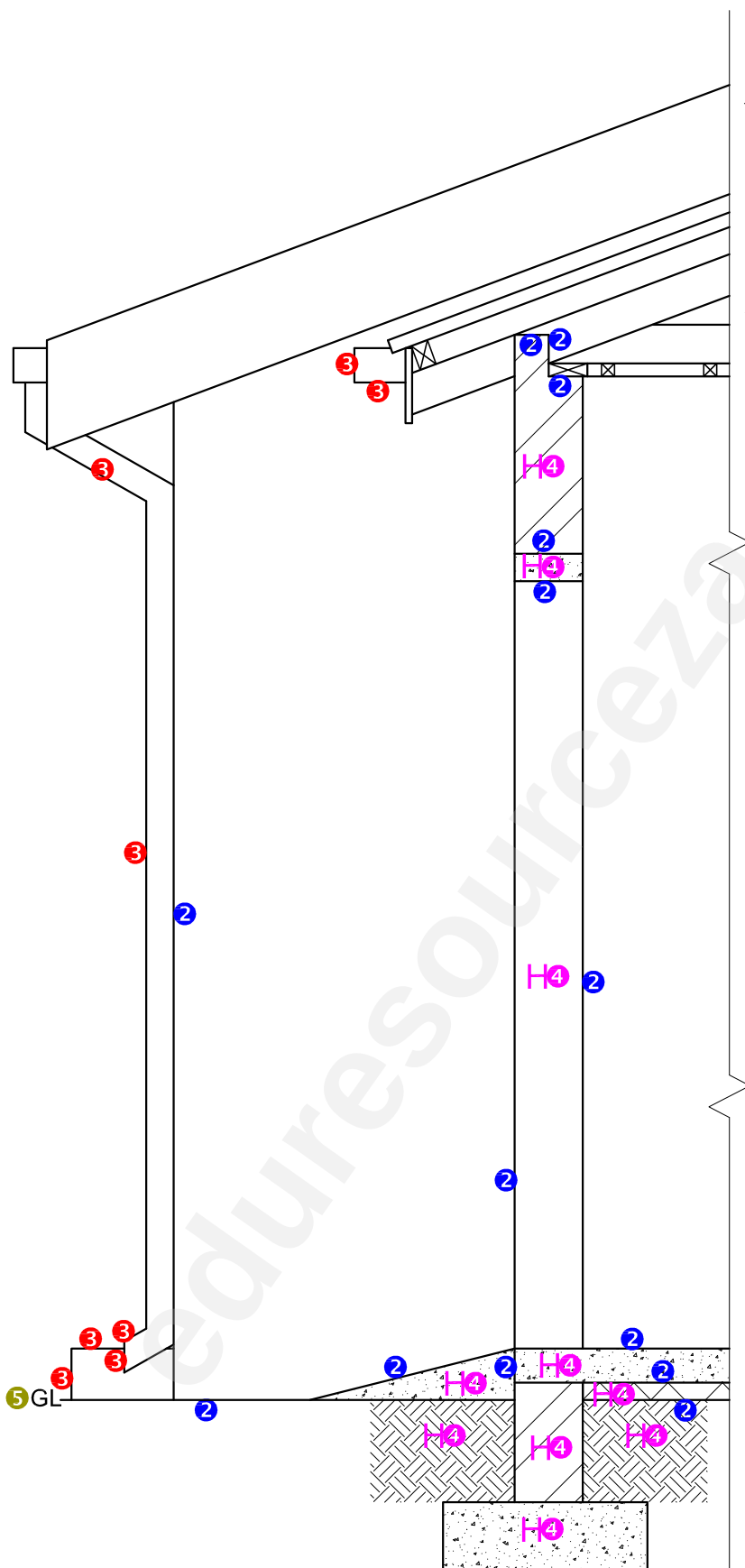
ASSESSMENT CRITERIA		
FLOOR PLAN		
1	DOORS + WINDOWS	14
2	ELECTRICAL	11
3	FIXTURES	8
4	HATCHING	4
5	LABELS	5
SUBTOTAL		42



SOUTH ELEVATION 4

PAPER 1 QUESTION 4.1.2
GRADE 12
NOVEMBER 2016
MEMORANDUM

ASSESSMENT CRITERIA		
SOUTH ELEVATION		
1	ROOF	5 $\frac{1}{2}$
2	WALLS + RWDP + FFL	7
3	DOOR + WINDOW	10
4	LABELS	1
SUBTOTAL		23 $\frac{1}{2}$

**1. MARK ALLOCATION FOR SECTION OF ROOF**

A. ROOF ANGLE	1
B. ROOF SHEET	1
C. PURLIN	1
D. TRUSS	2
E. FASCIA BOARD	1
F. WALL PLATE	1
G. BRANDERING + SPACING	1
H. CEILING BOARD	1
I. BARGE BOARD	2
TOTAL	11

SECTION A-A
SCALE 1 : 20

PAPER 1 QUESTION 4.2
GRADE 12
NOVEMBER 2016
MEMORANDUM

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF	11
2	WALLS + SLAB	7
3	GUTTER + RWDP	4
4	HATCHING	5
5	LABELS	$\frac{1}{2}$
SUBTOTAL		27 $\frac{1}{2}$

100 mm THICK FLAT CONCRETE ROOF
200 x 9 mm FIBRE CEMENT BARGE BOARD
250 x 9 mm FIBRE CEMENT FASCIA BOARD
150 x 100 mm GUTTER
Ø70 mm RWDP
DOOR OPENING
BAY WINDOW OPENING

2700
2050
2375
2700

FINISHED FLOOR LEVEL
900 x 300 x 200 CONCRETE STEPS
GROUND LEVEL

INCOMPLETE WEST ELEVATION

INCOMPLETE FLOOR PLAN

FEATURES
D DOOR
W1 TO W3 WINDOWS

FIXTURES
WC TOILET
WB WASHBASIN
SH SHOWER
S SINK

ELECTRICAL FITTINGS
1. ONE-WAY SWITCH - SINGLE-POLE
2. ONE-WAY SWITCH - DOUBLE-POLE
3. FLUORESCENT LIGHT 3 x 40 W
4. WALL-MOUNTED LIGHT
5. CEILING LIGHT
6. SWITCHED SOCKET OUTLET
7. DISTRIBUTION BOARD

NOTE:
THE ARROW SHOWS THE LIGHT CONNECTION TO THE SWITCH.

ROOF NOTES:
30° ROOF PITCH

114 x 38 mm ROOF TRUSS ON 114 x 38 mm WALL PLATES

500 mm ROOF OVERHANG TO END OF ROOF TRUSS

10 mm FIBRE CEMENT ROOF SHEETING ON 75 x 50 mm PURLINS @ 1000 mm c/c

200 x 9 mm BARGE BOARD ON GABLE ENDS
250 x 9 mm FASCIA BOARD WITH 150 x 100 mm GUTTERS ON ALL SIDES

9 mm CEILING BOARD ON 38 x 38 mm BRANDING STRIPS @ 400 mm c/c

SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR ROOF B

INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL

ROOM DESIGNATIONS

FLOOR FINISHES
1 BATHROOM: TILE
2 BEDROOM: CARPET
3 LOUNGE: CARPET
4 KITCHEN: TILE

ROOF COMPONENTS

	ROOF CAP
	114 x 38 mm WALL PLATE
	150 x 100 mm GUTTER

ELECTRICAL SYMBOLS

DOOR AND WINDOW SCHEDULE

TO FIT

2050

DOOR FRAME AND DOOR (D)

DOOR NOTE:
TWO 75 x 100 mm LINTELS ABOVE THE DOOR

WINDOW (W3)

WINDOW (W2)

BAY WINDOW (W1)

WINDOW NOTES:
• A = OPENING SIDE
• B = HINGED SIDE
• C = FIXED PANEL
• 150 x 20 mm FIBRE CEMENT SILL UNDER ALL WINDOWS

FIXTURES

SINK (S)

WASHBASIN (WB)

TOILET (WC)

SHOWER (SH)

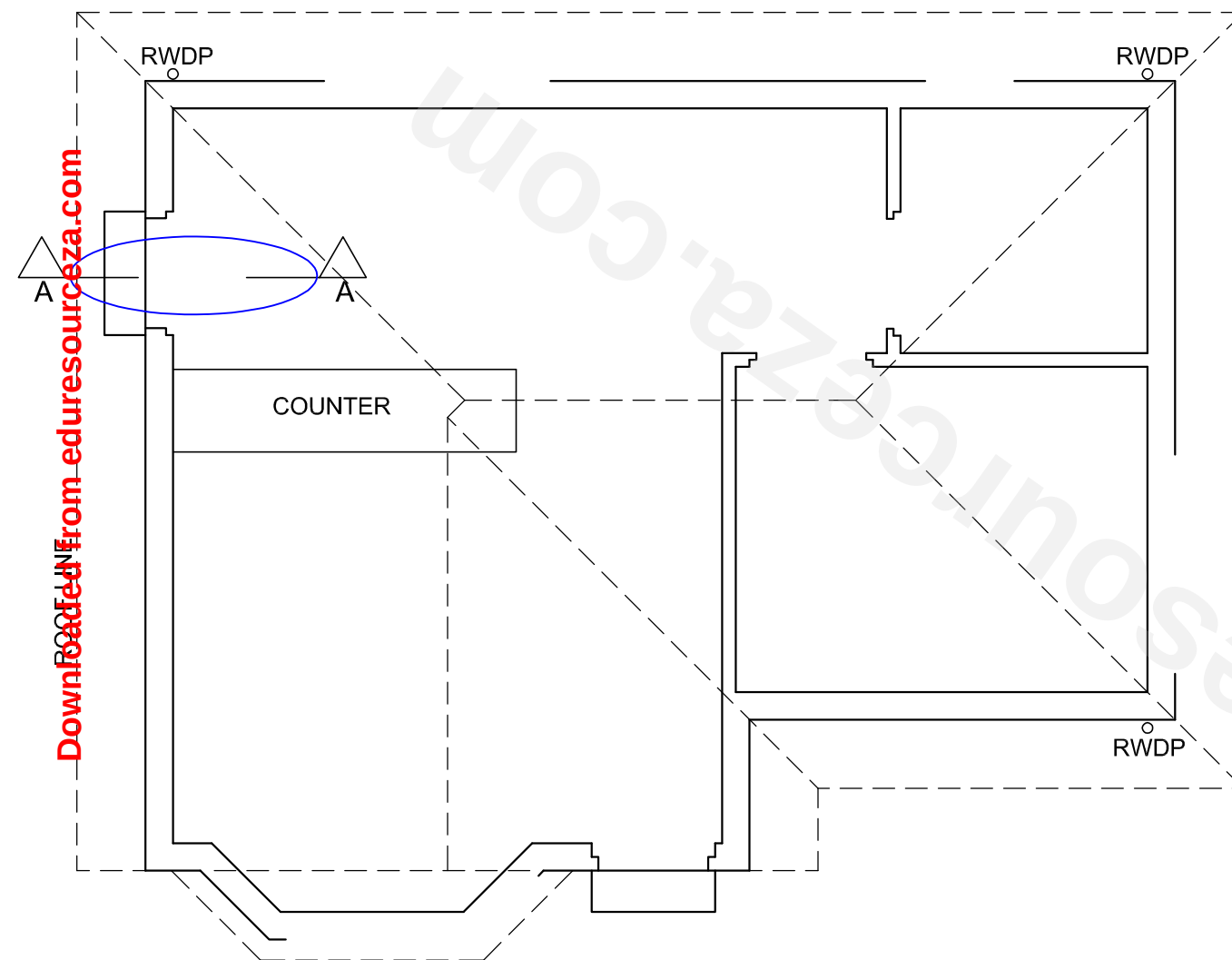
QUESTION 4: CIVIL DRAWING

- Given:**
- The incomplete west elevation of a **new house**, showing the walls, the door and window openings, the roof and notes
 - The incomplete floor plan showing the walls, positions of the doors, windows, fixtures and the electrical layout
 - A schematic diagram of a roof truss and roof notes
 - Room designations and floor finishes
 - The incomplete foundation and external wall detail
 - A table of roof components
 - A table of electrical symbols
 - A door and window schedule
 - A table of fixtures
 - The incomplete floor plan of the **new house**, drawn to scale 1 : 50, and the incomplete foundation of the detailed section, drawn to scale 1 : 20, on page 6

- Instructions:**
Answer this question on page 6.
- 4.1 Using the given incomplete floor plan, draw, in first-angle orthographic projection and to scale 1 : 50, the following views of the **new house**:
- 4.1.1 **THE COMPLETE FLOOR PLAN**
Add the following features to the drawing:
- ALL doors and windows
 - The fixtures as indicated by the abbreviations
 - ALL electrical fittings as indicated by the numbers
 - ALL hatching detail
- 4.1.2 **THE COMPLETE WEST ELEVATION**
Show the following features on the drawing:
- The outside walls, door and window detail
 - The roof detail, including the barge boards, fascia boards, gutters and rainwater down-pipe
 - The finished floor level
- 4.2 Using the incomplete foundation on page 6, draw, to scale 1 : 20, a **DETAILED SECTION** on cutting plane A-A of the area in the ellipse shown on the incomplete floor plan.
- Show the following features on the drawing:**
- The foundation and external wall detail
 - The door detail
 - The roof detail, including the fascia board and gutter
 - The sink
 - ALL hatching detail. ONLY the substructure hatching may be drawn in neat freehand.

- Label the following:**
- The west elevation
 - The room designations and floor finishes
 - Ground level, finished floor level and damp-proof course (use the correct abbreviations and show it on ALL the relevant views)

NOTE:
ALL drawings must comply with the **guidelines** and **graphical symbols** as contained in the **SANS 10143**. [95]



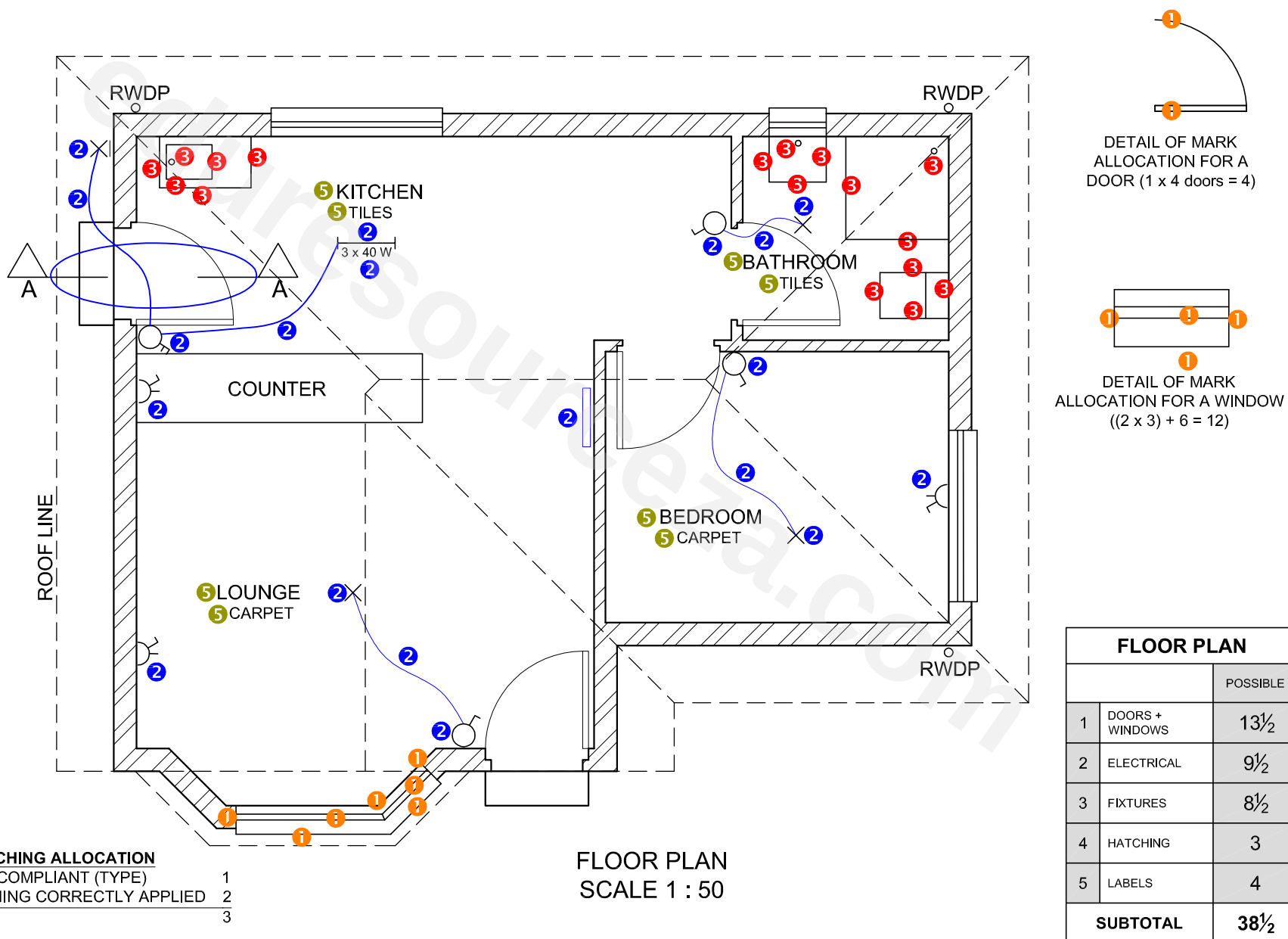
DETAILED SECTION A-A
SCALE 1 : 20

FLOOR PLAN
SCALE 1 : 50

FOR OFFICIAL USE ONLY	
INCORRECT SCALE	
NON-ALIGNMENT OF VIEWS	
VIEW(S) ROTATED	
SECTION VIEWED INCORRECTLY	
INCORRECT LETTERING	
TOTAL	

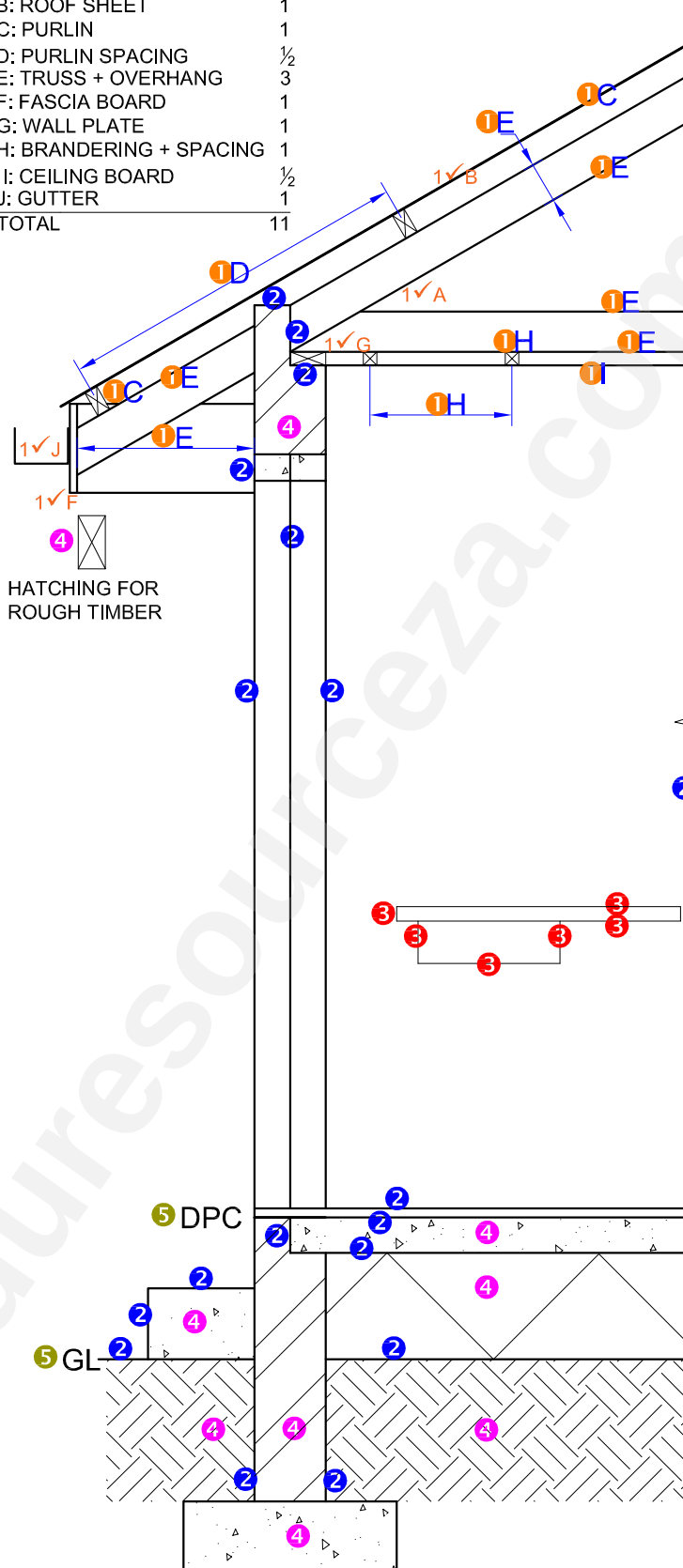
[illegible]

ASSESSMENT CRITERIA					
FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	13½			
2	ELECTRICAL	9½			
3	FIXTURES	8½			
4	HATCHING	3			
5	LABELS	4			
SUBTOTAL		38½			
WEST ELEVATION					
1	ROOF + RWDP	12			
2	WALLS + FFL	6½			
3	DOOR + WINDOW	8			
4	LABELS	1½			
SUBTOTAL		28			
DETAILED SECTION					
1	ROOF DETAIL	11			
2	FOUNDATION + WALL + DOOR	9			
3	SINK	3			
4	HATCHING	4½			
5	LABELS	1			
SUBTOTAL		28½			
TOTAL		95			
PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					6



MARK ALLOCATION FOR ROOF (1)

A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN	1
D: PURLIN SPACING	$\frac{1}{2}$
E: TRUSS + OVERHANG	3
F: FASCIA BOARD	1
G: WALL PLATE	1
H: BRANDING + SPACING	1
I: CEILING BOARD	$\frac{1}{2}$
J: GUTTER	1
TOTAL	11

**DETAILED SECTION**

1	ROOF DETAIL	11
2	FOUNDATION + WALL + DOOR	9
3	SINK	3
4	HATCHING	$4\frac{1}{2}$
5	LABELS	1
SUBTOTAL		$28\frac{1}{2}$

DETAILED SECTION A-A

SCALE 1 : 20

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PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES

MARK ALLOCATION FOR ROOF (1)

A: ROOF ANGLE1

B: ROOF SHEET1

C: PURLIN1

D: PURLIN SPACING $\frac{1}{2}$

E: TRUSS + OVERHANG3

F: FASCIA BOARD1

G: WALL PLATE1

H: BRANDERING1

I: CEILING BOARD $\frac{1}{2}$

J: GUTTER1

TOTAL11

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4 HATCHING ALLOCATION

SANS COMPLIANT (TYPE)1

HATCHING CORRECTLY APPLIED2

TOTAL3

DETAIL OF MARK ALLOCATION FOR A DOOR (1 x 4 doors = 4)

DETAIL OF MARK ALLOCATION FOR A WINDOW ((2 x 3) + 6 = 12)

DETAIL OF SECTION A-A

SCALE 1 : 20

FLOOR PLAN

SCALE 1 : 50

FOR OFFICIAL USE ONLY

INCORRECT SCALE		
NON-ALIGNMENT OF VIEWS		
VIEW(S) ROTATED		
SECTION VIEWED INCORRECTLY		
INCORRECT LETTERING		
TOTAL		

MARK ALLOCATION FOR ROOF SECTION

A	B	C	D	E	F	G	H	I	J

ASSESSMENT CRITERIA

FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	13 $\frac{1}{2}$			
2	ELECTRICAL	9 $\frac{1}{2}$			
3	FIXTURES	8 $\frac{1}{2}$			
4	HATCHING	3			
5	LABELS	4			
SUBTOTAL		38 $\frac{1}{2}$			
WEST ELEVATION					
1	ROOF + RWDP	12			
2	WALLS + FFL	6 $\frac{1}{2}$			
3	DOOR + WINDOW	8			
4	LABELS	1 $\frac{1}{2}$			
SUBTOTAL		28			
DETAILED SECTION					
1	ROOF DETAIL	11			
2	FOUNDATION + WALL + DOOR	9			
3	SINK	3			
4	HATCHING	4 $\frac{1}{2}$			
5	LABELS	1			
SUBTOTAL		28 $\frac{1}{2}$			
TOTAL		95			
PENALTIES (-)					
GRAND TOTAL					

63

INCOMPLETE WEST ELEVATION

ROOM DESIGNATIONS

DOOR AND WINDOW SCHEDULE	
	TO FIT
	TO FIT
	1150 x 990
	575 x 700
	1700 x 1250
	2110

FEATURES	
D1	DOOR
D2	SLIDING DOOR
W1 TO W3	WINDOWS

FLOOR FINISHES	
1. BEDROOM:	CARPET
2. VERANDA:	GRANO
3. LIVING AREA:	WOOD
4. KITCHEN:	TILE
5. BATHROOM:	TILE

FIXTURES	
WC	TOILET
WB	WASHBASIN
SH	SHOWER
S	SINK

ELECTRICAL FITTINGS	
1.	ONE-WAY SWITCH - SINGLE-POLE
2.	ONE-WAY SWITCH - DOUBLE-POLE
3.	FLUORESCENT LIGHT 2 x 40 W
4.	WALL-MOUNTED LIGHT
5.	CEILING LIGHT
6.	SWITCHED SOCKET OUTLET
7.	DISTRIBUTION BOARD

NOTE:
THE ARROW SHOWS THE LIGHT CONNECTION TO THE SWITCH.

INCOMPLETE FLOOR PLAN

SCHEMATIC DIAGRAM OF A ROOF TRUSS

ROOF NOTES:
20° ROOF PITCH
114 x 38 mm ROOF TRUSSES ON 114 x 38 mm WALL PLATES
240 mm ROOF OVERHANG TO END OF ROOF TRUSSES
30 mm CORRUGATED ROOF SHEETING ON 75 x 50 mm PURLINS @ 1060 mm c/c
300 x 75 x 10 mm BARGE BOARD ON GABLE ENDS, 20 mm PAST THE GUTTER
200 x 20 mm FASCIA BOARD ON BOTH SIDES
150 x 100 mm GUTTER ON BOTH SIDES WITH Ø100 RAINWATER DOWN-PIPES
10 mm CEILING BOARD ON 38 x 38 mm BRANDING STRIPS @ 460 mm c/c

INCOMPLETE DETAIL OF FOUNDATIONS AND WALLS FOR THE VERANDA

ELECTRICAL SYMBOLS	

ROOF COMPONENTS	
	114 x 38 mm WALL PLATE
	200 x 20 mm FASCIA BOARD
	300 x 75 x 10 mm FIBRE CEMENT BARGE BOARD
	ROOF CAP

FIXTURES	
	TOILET (WC)
	WASHBASIN (WB)
	SHOWER (SH)
	SINK (S)

QUESTION 4: CIVIL DRAWING

Given:

- The incomplete west elevation of a **new house** showing the walls, the sliding door and window openings, the roof and notes
- The incomplete floor plan showing the walls, positions of the doors, windows, fixtures and the electrical layout
- A schematic diagram of a roof truss and roof notes
- The incomplete detail of the foundations and walls for the veranda
- Room designations and floor finishes
- A table of electrical symbols
- A door and window schedule
- A table of roof components
- A table of fixtures
- The incomplete floor plan of the **new house**, drawn to scale 1 : 50, and the incomplete foundation and break line of the detailed section, drawn to scale 1 : 20, on page 6

Instructions:

Answer this question on page 6.

4.1 Using the given incomplete floor plan, draw, in first-angle orthographic projection and to scale 1 : 50, the following views of the **new house**:

4.1.1 THE COMPLETE FLOOR PLAN

Add the following features to the drawing:

- ALL doors and windows
- The fixtures as indicated by the abbreviations
- ALL electrical fittings as indicated by the numbers
- ALL hatching detail

4.1.2 THE COMPLETE WEST ELEVATION

Show the following features on the drawing:

- The outside walls, sliding door and window detail
- The veranda detail
- The roof detail, including the roof cap, barge boards, fascia board, gutter and rainwater down-pipe
- The finished floor level

4.2 Using the incomplete foundation and break line on page 6, draw, to scale 1 : 20, a **DETAILED SECTION** on cutting plane C-C of the area in the ellipse shown on the incomplete floor plan.

Show the following features on the drawing:

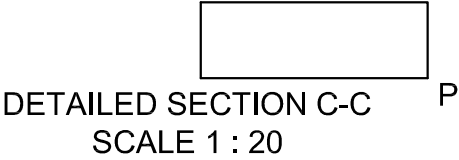
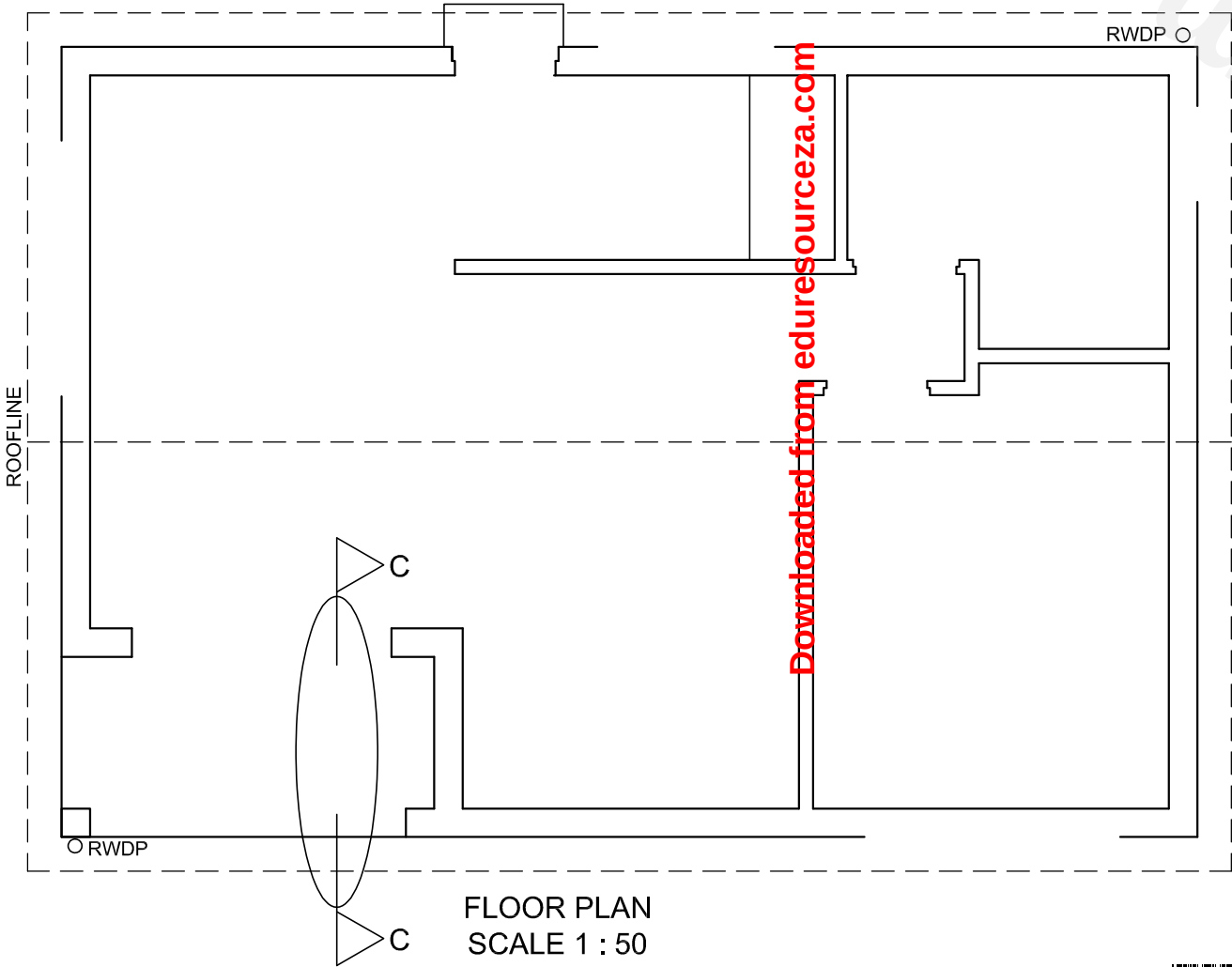
- The complete detail of the foundations and walls for the veranda
- The door detail
- The roof detail, including the fascia board, gutter and barge board
- ALL hatching detail. ONLY the substructure hatching may be drawn in neat freehand.

Label the following:

- The west elevation
- The room designations and floor finishes
- Ground level, finished floor level and damp-proof course (use the correct abbreviations and show them on ALL the relevant views)

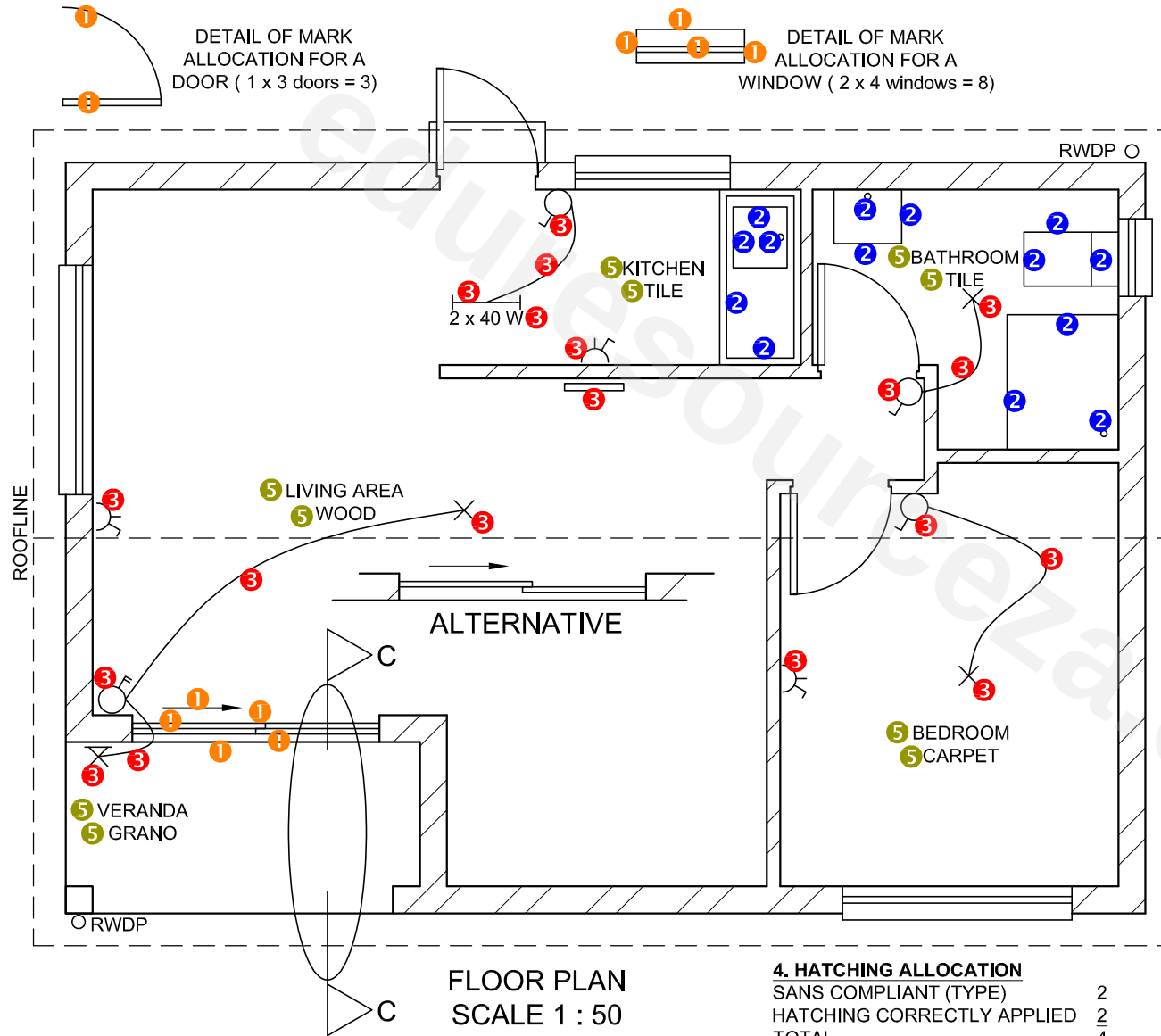
NOTE:

ALL drawings must comply with the **guidelines** and **graphical symbols** as contained in the **SANS 10143**. [93]



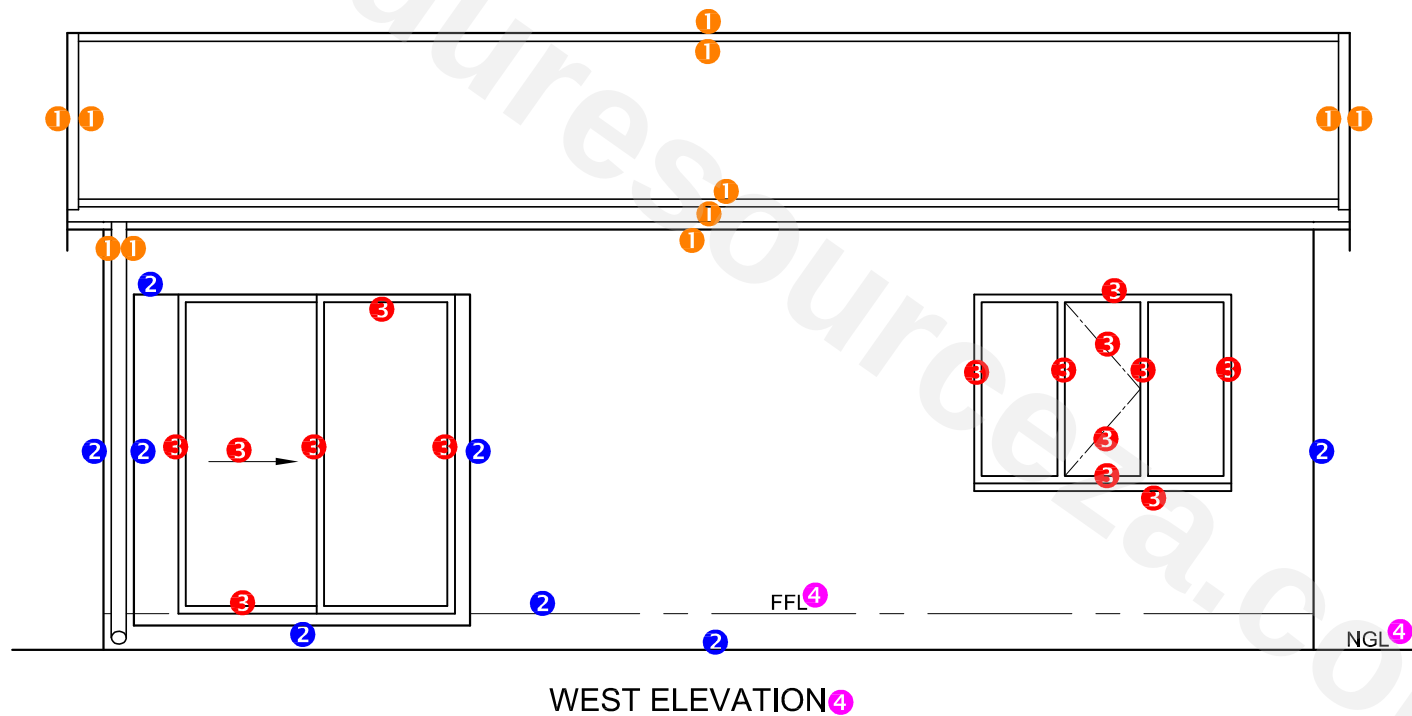
MARK ALLOCATION FOR ROOF SECTION (4.2)		FOR OFFICIAL USE ONLY	
A (1)		INCORRECT SCALE	
B (1)		NON-ALIGNMENT OF VIEWS	
C (2)		VIEW(S) ROTATED	
D (3)		SECTION VIEWED INCORRECTLY	
E (2)		INCORRECT LETTERING	
F (1)			
G (1)			
H (2)			
I (1)			
J (1)			
TOTAL		TOTAL	

ASSESSMENT CRITERIA					
FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	13 ¹ / ₂			
2	FIXTURES	7			
3	ELECTRICAL	9 ¹ / ₂			
4	HATCHING	4			
5	LABELS	5			
SUBTOTAL		39			
WEST ELEVATION					
1	ROOF + RWDP	5 ¹ / ₂			
2	WALLS + FFL + STEP	4			
3	DOOR + WINDOW	7 ¹ / ₂			
4	LABELS	1 ¹ / ₂			
SUBTOTAL		18 ¹ / ₂			
DETAILED SECTION					
1	ROOF	12			
2	FOUNDATION + WALL + SLAB + DOOR + LINTEL	13 ¹ / ₂			
3	HATCHING	9			
4	LABELS	1			
SUBTOTAL		35 ¹ / ₂			
TOTAL		93			
TOTAL PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
					6



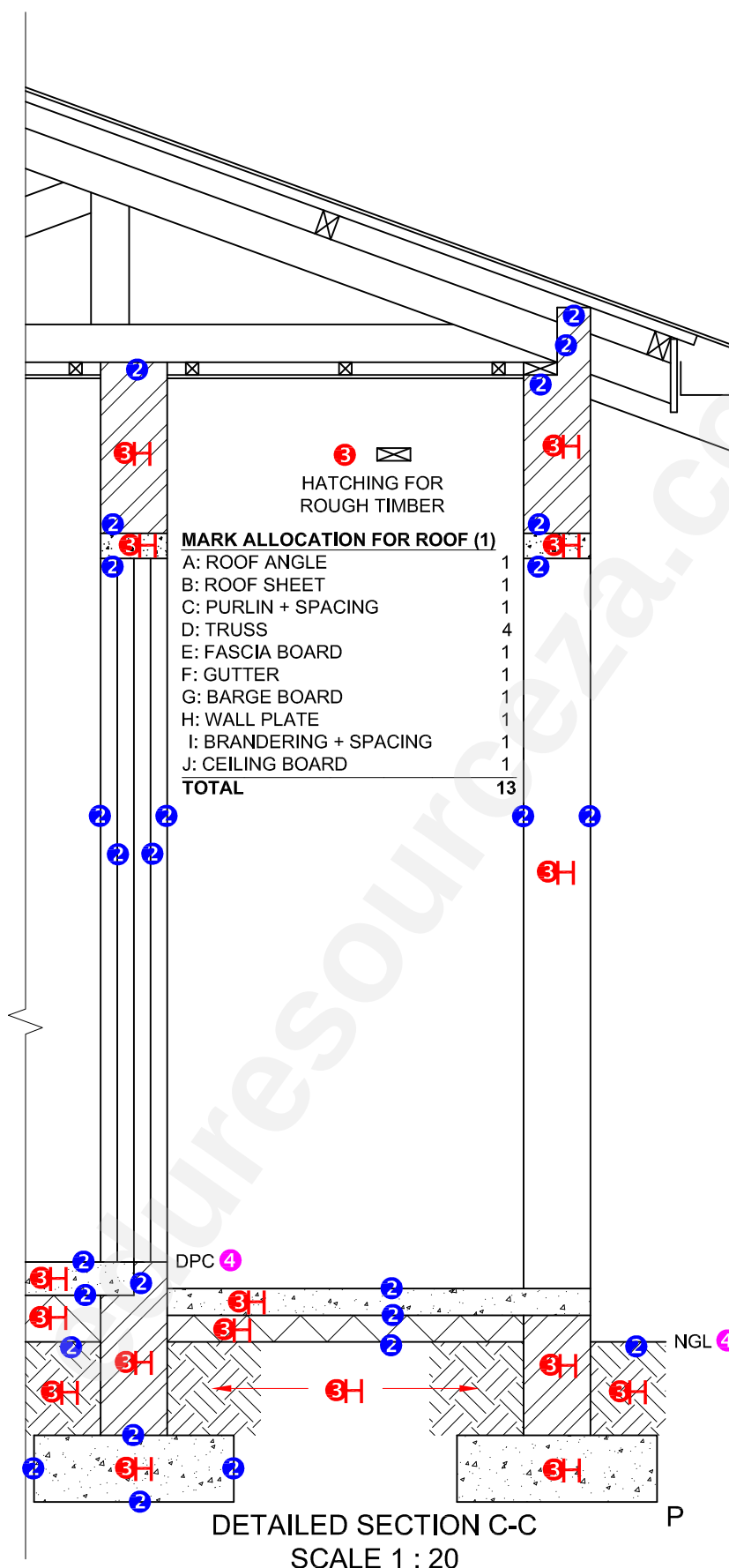
ASSESSMENT CRITERIA		
FLOOR PLAN		
		POSSIBLE
1	DOORS + WINDOWS	13 $\frac{1}{2}$
2	FIXTURES	7
3	ELECTRICAL	9 $\frac{1}{2}$
4	HATCHING	4
5	LABELS	5
SUBTOTAL		39

PAPER 1 QUESTION 4
 GRADE 12
 NOVEMBER 2018
 MARKING GUIDELINE



PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

ASSESSMENT CRITERIA		
WEST ELEVATION		
1	ROOF + RWDP	5 $\frac{1}{2}$
2	WALLS + FFL + STEP	4
3	DOOR + WINDOW	7 $\frac{1}{2}$
4	LABELS	1 $\frac{1}{2}$
SUBTOTAL		18 $\frac{1}{2}$



DETAILED SECTION C-C
SCALE 1 : 20

PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF	13
2	FOUNDATION + WALL + SLAB + DOOR + LINTEL	13
3	HATCHING	8 $\frac{1}{2}$
4	LABELS	1
SUBTOTAL		35 $\frac{1}{2}$

ROOF CAP
RIDGE COVER
300 x 30 x 5 mm BARGE BOARD

WINDOW OPENING

SLIDING DOOR OPENING

FINISHED FLOOR LEVEL
GROUND LEVEL

300 x 150 mm STEPS

150 x 150 mm GUTTER ON
300 x 20 mm FASCIA BOARD
WITH Ø100 mm RWDP THAT
STOPS 50 mm OFF THE
GROUND LEVEL

INCOMPLETE NORTH ELEVATION

ROOF 'A'

WC

WB

B

S

W1

D2

1

2

3

4

5

6

7

8

INCOMPLETE FLOOR PLAN

ROOF NOTES:
30° ROOF PITCH

115 x 40 mm ROOF TRUSSES ON 115 x 40 mm
WALL PLATES

300 mm ROOF OVERHANG TO END OF ROOF
TRUSS

20 mm FIBRE CEMENT ROOF SHEETING ON
75 x 50 mm PURLINS @ 900 mm c/c

300 x 20 mm FASCIA BOARD WITH
150 x 150 mm GUTTERS ON ALL SIDES

300 x 30 x 5 mm BARGE BOARDS ON GABLE
ENDS, 40 mm PAST THE GUTTERS

8 mm CEILING BOARD ON 40 x 40 mm
BRANDERING STRIPS @ 600 mm c/c

ROOM DESIGNATIONS

FLOOR FINISHES
1. LOUNGE: CARPET
2. KITCHEN: TILES
3. BEDROOM: CARPET
4. BATHROOM: TILES

FEATURES
D1 + D2 DOORS
W1 + W2 WINDOWS

FIXTURES
WC TOILET
WB WASH BASIN
B BATH
S SINK

ELECTRICAL FITTINGS
1. ONE-WAY SWITCH - SINGLE-POLE
2. ONE-WAY SWITCH - DOUBLE-POLE
3. FLUORESCENT LIGHT 3 x 40 W
4. WALL-MOUNTED LIGHT
5. CEILING LIGHT
6. SWITCHED SOCKET OUTLET
7. SOCKET OUTLET
8. DISTRIBUTION BOARD

NOTE:
THE ARROW SHOWS THE LIGHT
CONNECTION TO THE SWITCH.

200 x 75 mm LINTELS
ABOVE ALL WINDOW
OPENINGS

GROUND LEVEL

INCOMPLETE FOUNDATION
AND EXTERNAL WALL
DETAIL

WINDOW AND DOOR SCHEDULE

WINDOW (W1)

TO FIT

SLIDING DOOR (D1)

TO FIT

DOOR (D2)

WINDOW NOTES:
• A = OPENING SIDE
• B = HINGED SIDE
• C = FIXED PANEL
• ALL FRAMES 50 mm THICK
• 180 x 20 mm SILL TILE UNDER
ALL WINDOWS

DOOR NOTE:
• ALL FRAMES 50 mm THICK

FIXTURES

FLOOR LEVEL

TOILET (WC)

WASH BASIN (WB)

BATH (B)

SINK (S)

ELECTRICAL SYMBOLS

ROOF COMPONENTS

ROOF CAP AND RIDGE COVER

150 x 150 mm GUTTER

300 x 20 mm FASCIA BOARD

300 x 30 x 5 mm BARGE BOARD

QUESTION 4: CIVIL DRAWING

Given:

- The incomplete north elevation of a **new self-contained flatlet**, showing the walls, the sliding door and window openings, the roof and labels
- The incomplete floor plan showing the walls, steps, position of the doors, windows, fixtures and the electrical layout
- A schematic diagram of a roof truss for roof 'A' and roof notes
- Room designations and floor finishes
- The incomplete foundation and external wall detail
- A window and door schedule
- A table of fixtures
- A table of electrical symbols
- A table of roof components
- The incomplete floor plan of the **new self-contained flatlet**, drawn to scale 1 : 50, and the incomplete foundation and break line for the detailed section, drawn to scale 1 : 20, on page 6

Instructions:
Answer this question on page 6.

4.1 Using the given incomplete floor plan, draw, in first-angle orthographic projection and to scale 1 : 50, the following views of the **new self-contained flatlet**:

4.1.1 THE COMPLETE FLOOR PLAN
Add the following features to the drawing:

- ALL doors and windows
- The fixtures as indicated by the abbreviations
- ALL electrical fittings as indicated by the numbers
- ALL hatching detail

4.1.2 THE COMPLETE NORTH ELEVATION
Show the following features on the drawing:

- The outside walls, steps, window and door detail
- The roof detail, including the barge boards, fascia board, gutter and rainwater down-pipe
- The finished floor level

4.2 Using the incomplete foundation on page 6, draw, to scale 1 : 20, a **DETAILED SECTION** on cutting plane A-A of the area in the ellipse shown on the incomplete floor plan.
Show the following features on the drawing:

- The complete foundation and external wall detail
- The window detail
- The roof detail, including the fascia board, gutter and barge board
- The bath
- ALL hatching detail. ONLY the substructure hatching may be drawn in neat freehand.

Label the following:

- The north elevation
- The room designations and floor finishes
- Ground level, finished floor level and damp-proof course (use the correct abbreviations and show it on ALL the relevant views)

NOTE:
ALL drawings must comply with the **guidelines** and **graphical symbols** as contained in the **SANS 10143**.

[94]

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69

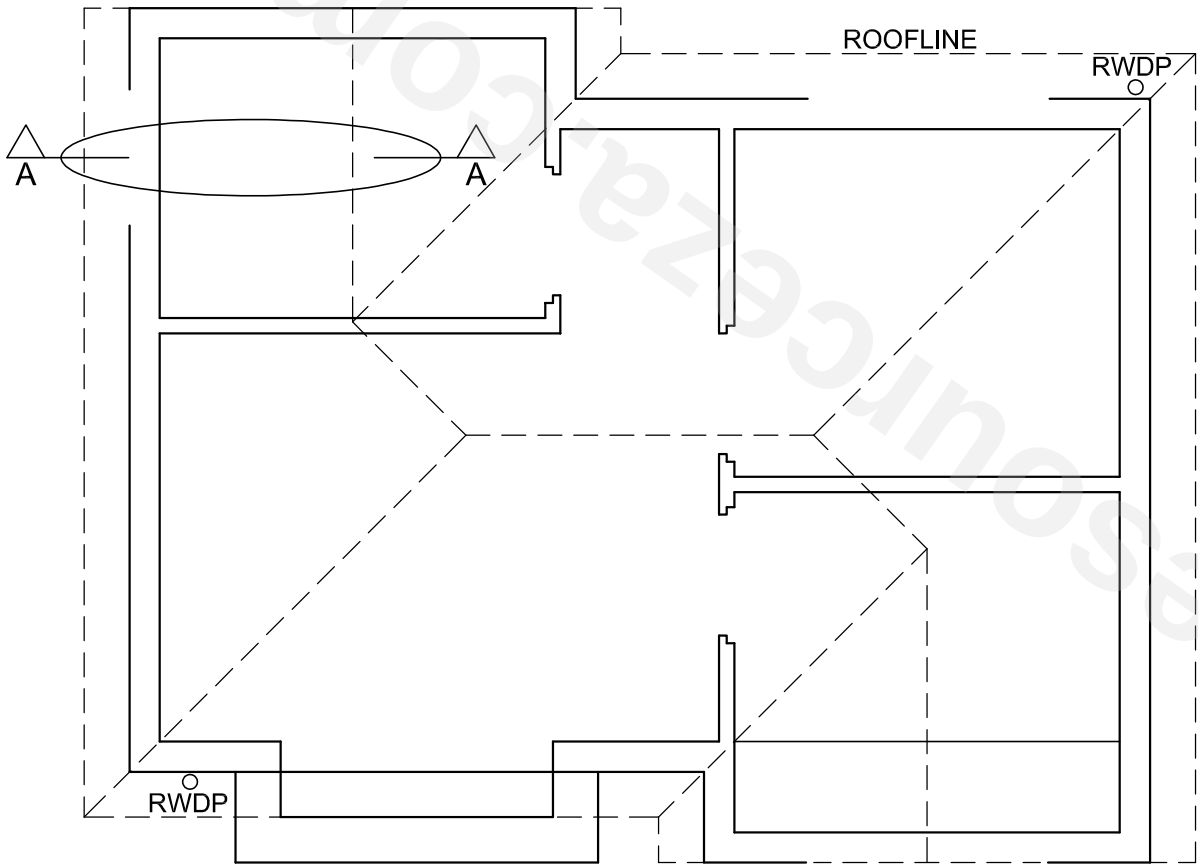
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DETAILED SECTION A-A
SCALE 1 : 20



FLOOR PLAN
SCALE 1 : 50

MARK ALLOCATION FOR SECTION OF ROOF		FOR OFFICIAL USE ONLY	
A (2)		INCORRECT SCALE(S) USED	
B (1)		NON-ALIGNMENT OF VIEWS	
C (1)		VIEW(S) ROTATED	
D (2)		SECTION VIEWED INCORRECTLY	
E (6)		INCORRECT LETTERING	
F (2)			
G (1)			
H (1)			
I (1)			
TOTAL		TOTAL	

ASSESSMENT CRITERIA					
FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	11			
2	FIXTURES	7			
3	ELECTRICAL	10			
4	HATCHING	3			
5	LABELS	4			
SUBTOTAL		35			
NORTH ELEVATION					
1	ROOF + RWDP	10 1/2			
2	WALLS + STEP + FFL	6			
3	DOOR + WINDOW	7			
4	LABELS	1 1/2			
SUBTOTAL		25			
DETAILED SECTION					
1	ROOF DETAIL	16			
2	FOUNDATION + WALL + WINDOW	10			
3	BATH	1			
4	HATCHING	5 1/2			
5	LABELS	1 1/2			
SUBTOTAL		34			
TOTAL		94			
PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					6

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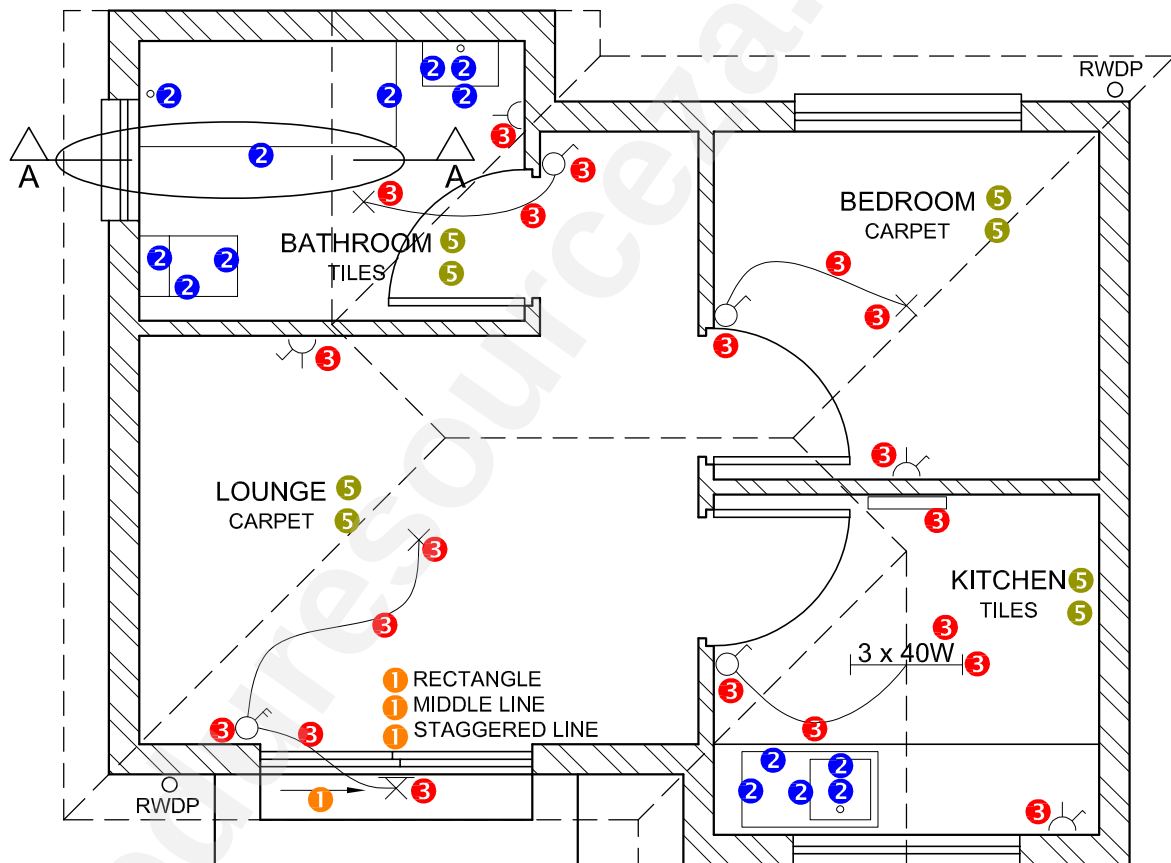


FLOOR PLAN

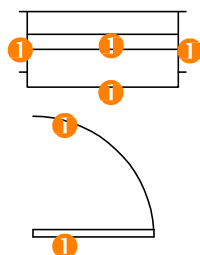
1	DOORS + WINDOWS	11
2	FIXTURES	7
3	ELECTRICAL	10
4	HATCHING	3
5	LABELS	4
SUBTOTAL		35

4 HATCHING ALLOCATION

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



FLOOR PLAN
SCALE 1 : 50



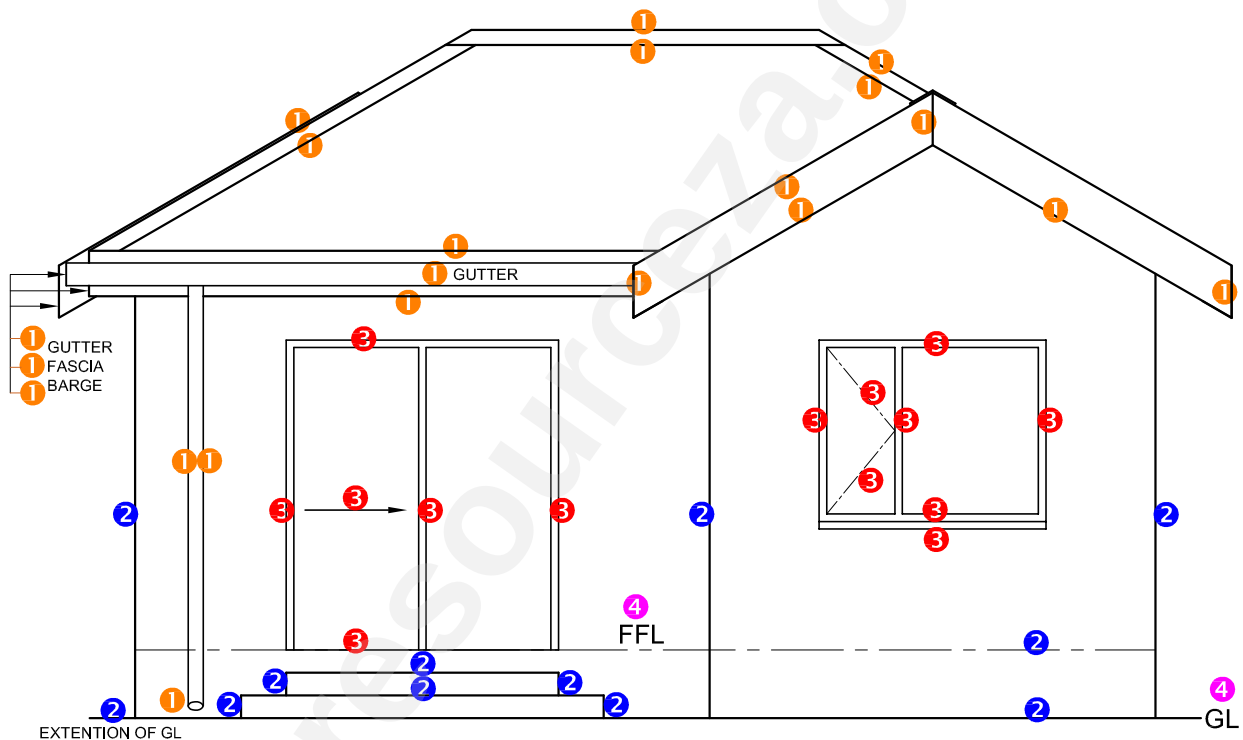
DETAIL OF MARK
ALLOCATION FOR A
WINDOW (2 x 3 windows = 6)

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

PAPER 1 QUESTION 4
GRADE 12
NSC 2019
MARKING GUIDELINES

NORTH ELEVATION

1	ROOF + RWDP	10 $\frac{1}{2}$
2	WALLS + STEP + FFL	6
3	DOOR + WINDOW	7
4	LABELS	1 $\frac{1}{2}$
SUBTOTAL		25

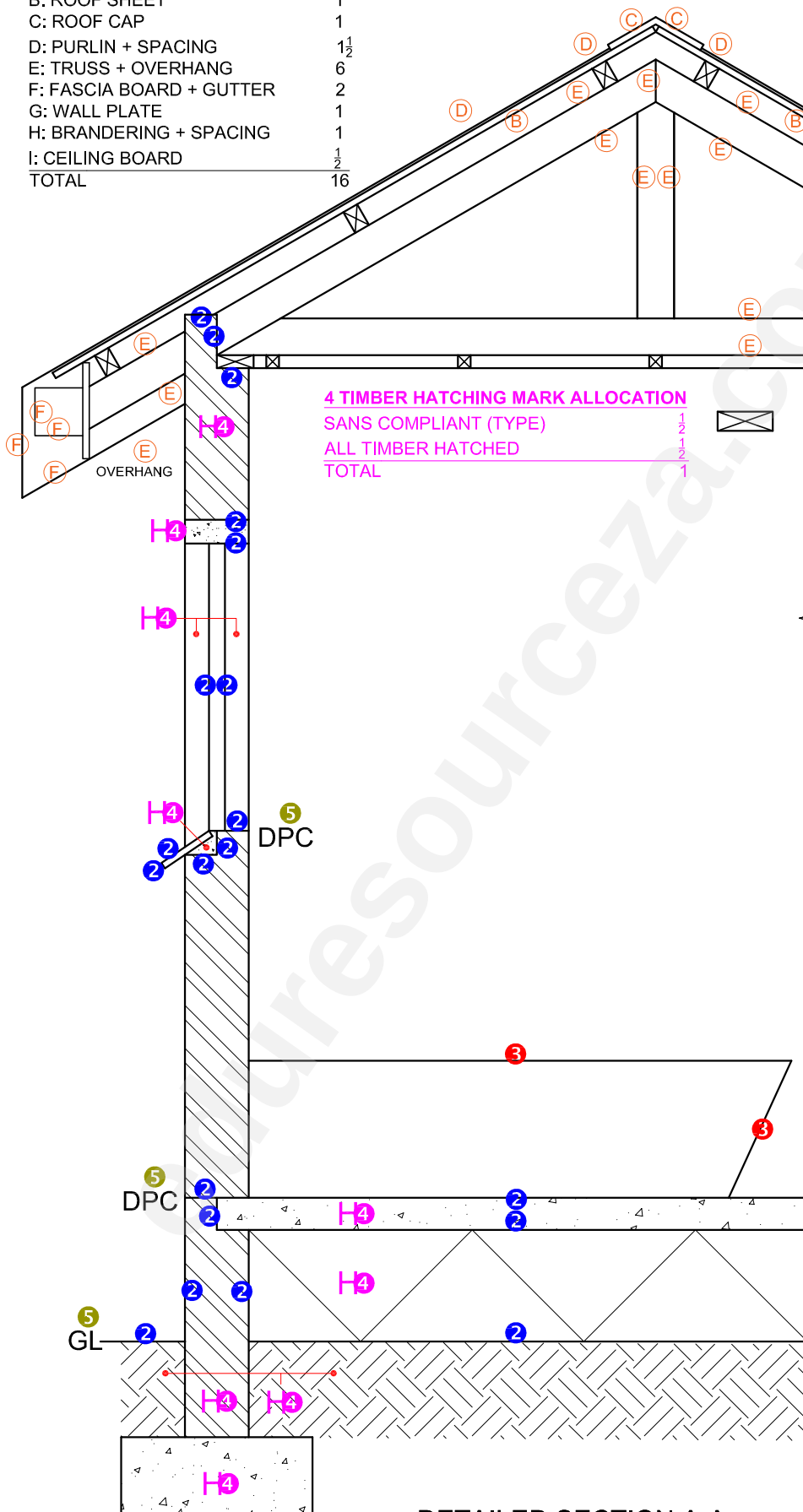
**NORTH ELEVATION 4**

1. MARK ALLOCATION FOR ROOF

A: ROOF ANGLE	1 + 1	2
B: ROOF SHEET		1
C: ROOF CAP		1
D: PURLIN + SPACING		1½
E: TRUSS + OVERHANG		6
F: FASCIA BOARD + GUTTER		2
G: WALL PLATE		1
H: BRANDING + SPACING		1
I: CEILING BOARD		½
TOTAL		16

DETAILED SECTION

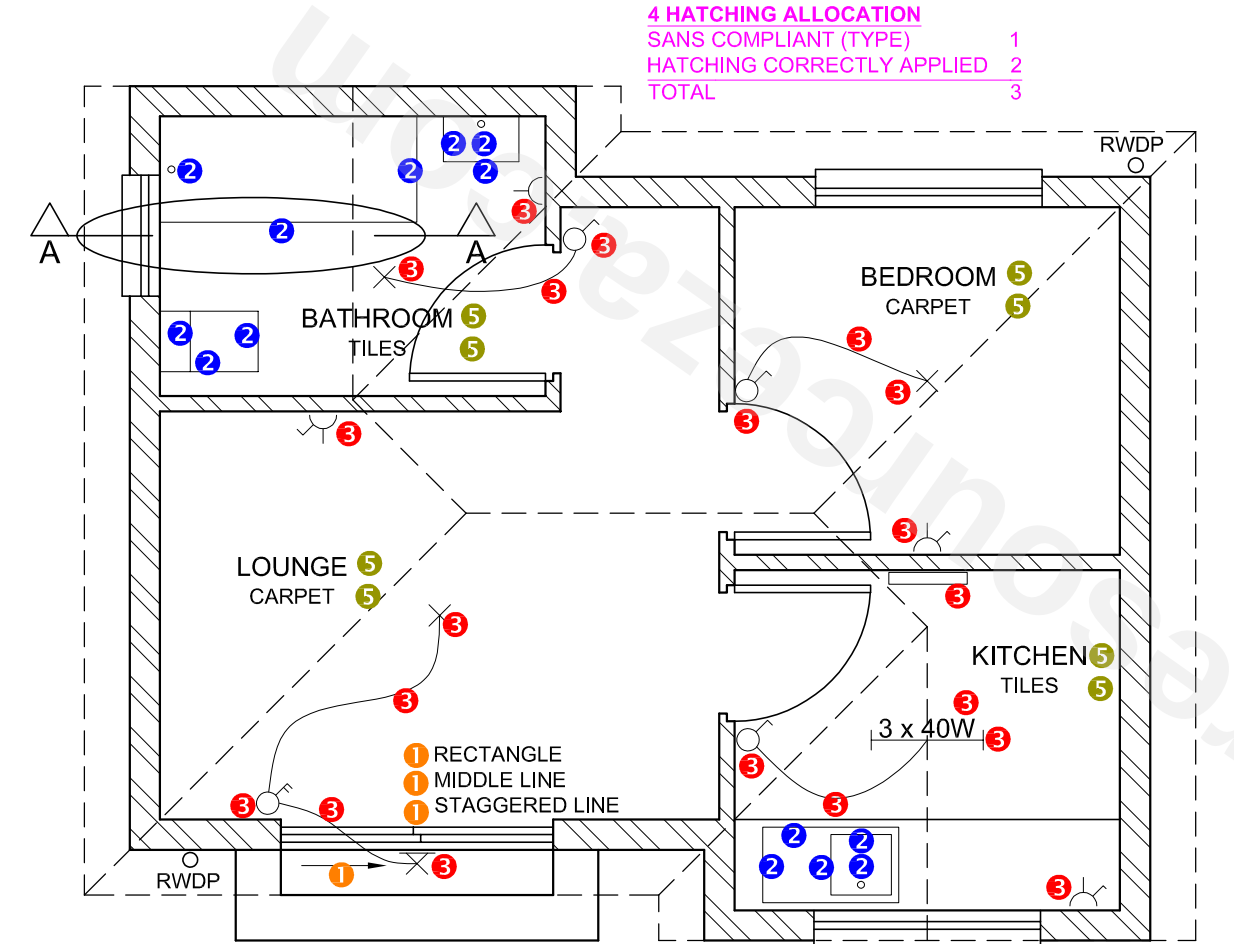
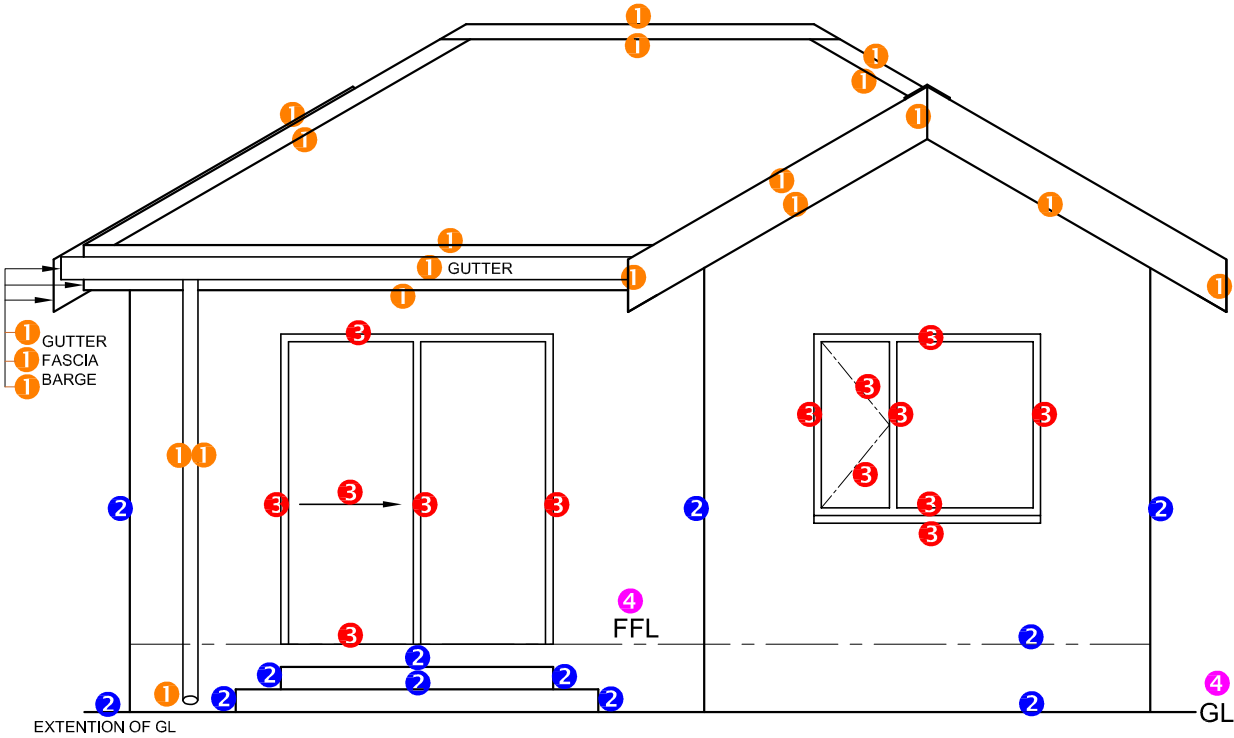
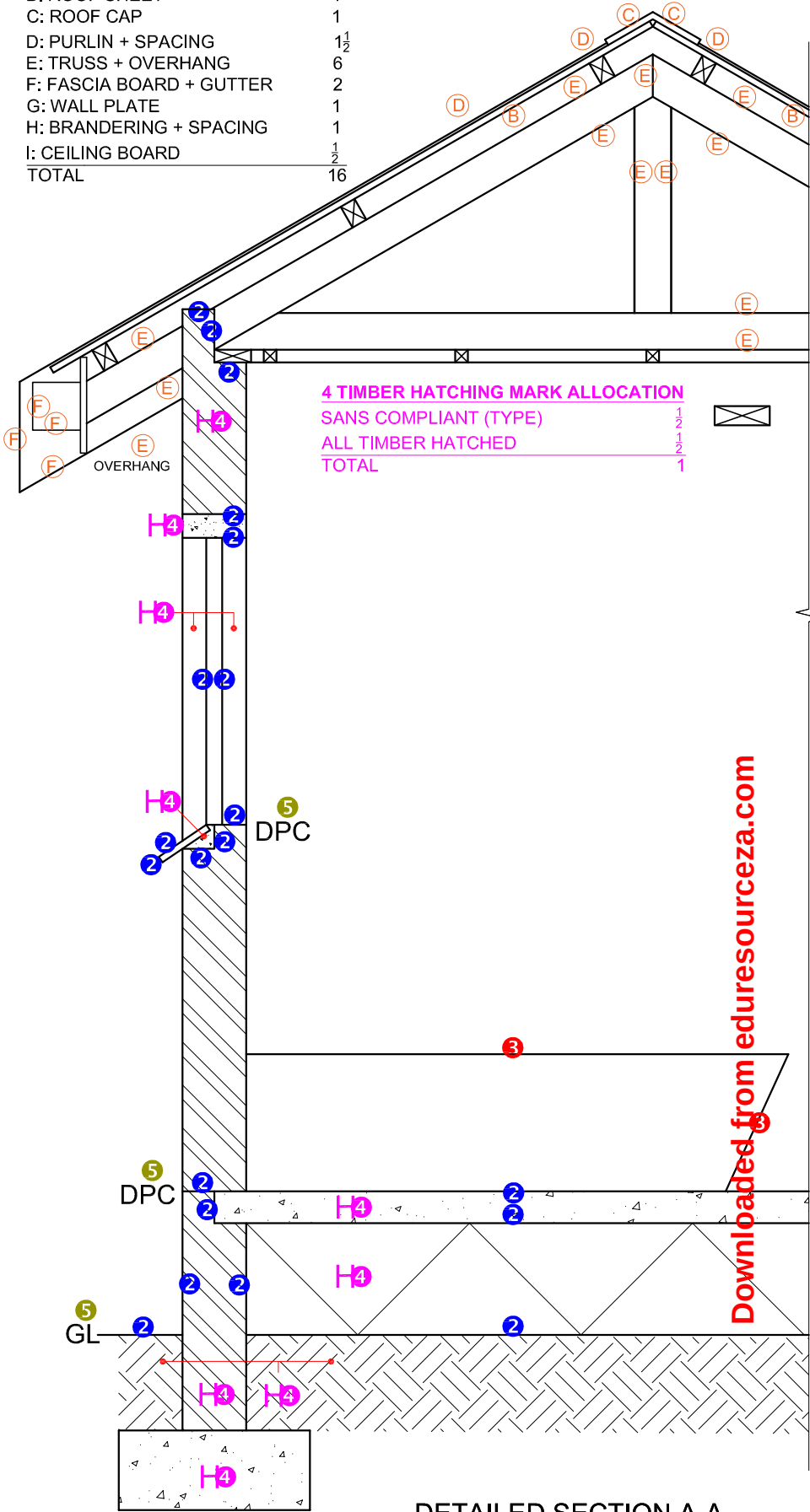
1	ROOF DETAIL	16
2	FOUNDATION + WALL + WINDOW	10
3	BATH	1
4	HATCHING	5½
5	LABELS	1½
SUBTOTAL		34



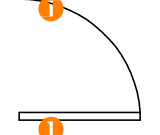
PAPER 1 QUESTION 4
GRADE 12
NSC 2019
MARKING GUIDELINES

1. MARK ALLOCATION FOR ROOF

A: ROOF ANGLE	1 + 1	2
B: ROOF SHEET		1
C: ROOF CAP		1
D: PURLIN + SPACING		1½
E: TRUSS + OVERHANG		6
F: FASCIA BOARD + GUTTER		2
G: WALL PLATE		1
H: BRANDERING + SPACING		1
I: CEILING BOARD		½
TOTAL		16



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



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

MARK ALLOCATION FOR ROOF SECTION	
A (2)	
B (1)	
C (1)	
D (2)	
E (6)	
F (2)	
G (1)	
H (1)	
I (1)	
TOTAL	

FOR OFFICIAL USE ONLY	
INCORRECT SCALE(S) USED	
NON-ALIGNMENT OF VIEWS	
VIEW(S) ROTATED	
SECTION VIEWED INCORRECTLY	
INCORRECT LETTERING	
TOTAL	

ASSESSMENT CRITERIA					
FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	11			
2	FIXTURES	7			
3	ELECTRICAL	10			
4	HATCHING	3			
5	LABELS	4			
SUBTOTAL		35			
NORTH ELEVATION					
1	ROOF + RWDP	10 ½			
2	WALLS + STEP + FFL	6			
3	DOOR + WINDOW	7			
4	LABELS	1 ½			
SUBTOTAL		25			
DETAILED SECTION					
1	ROOF DETAIL	16			
2	FOUNDATION + WALL + WINDOW	10			
3	BATH	1			
4	HATCHING	5 ½			
5	LABELS	1 ½			
SUBTOTAL		34			
TOTAL		94			
PENALTIES (-)					
GRAND TOTAL					