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

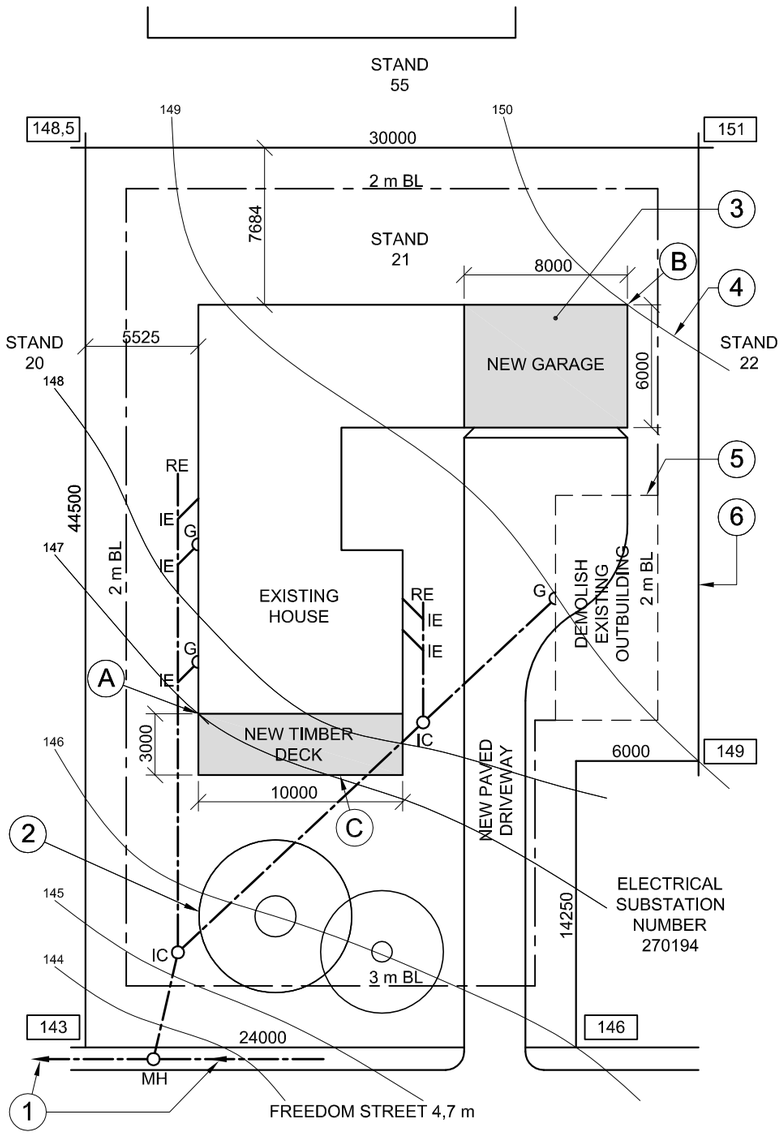
ANALYTICAL CIVIL PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS

STAPLE



SITE PLAN
SCALE 1 : 250

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	DATE OF PRINT
ILM PRINTERS	2015-02-13

DRAWING TITLE
SITE PLAN

PROJECT
PROPOSED NEW GARAGE AND TIMBER DECK FOR MRS SCHUTTE ON STAND 21, FREEDOM STREET.

PROJECT NUMBER	DRAWING NUMBER
AFSP-2015	VG 002

DATE	DRAWN	CHECKED	SCALE
2015-01-10	AD	BC	1 : 250

REFERENCE CODE
Q1P1N2015

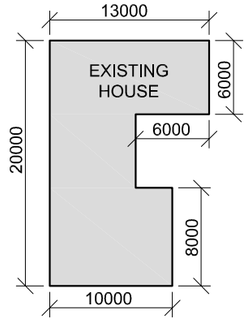
QUESTION 1: ANALYTICAL (CIVIL)

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 *IC* 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

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	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	248m² [calculation 1, answer 1, metres² 1]	3
20	*See below*	4

TOTAL 30

ANSWER 18
Show ALL calculations.

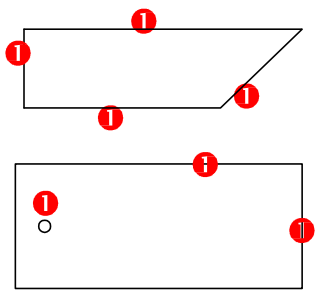
13 + 6 + 6 + 6 + 3 + 8 + 10 + 20 = 72 m

ANSWER 19
Show ALL calculations.

13 x 6	= 78
6 x 7	= 42
10 x 8	= 80
8 x 6	= 48
	248 m²

20

FREEHAND 1



PAPER 1 QUESTION 1
GRADE 12
November 2015
MEMORANDUM

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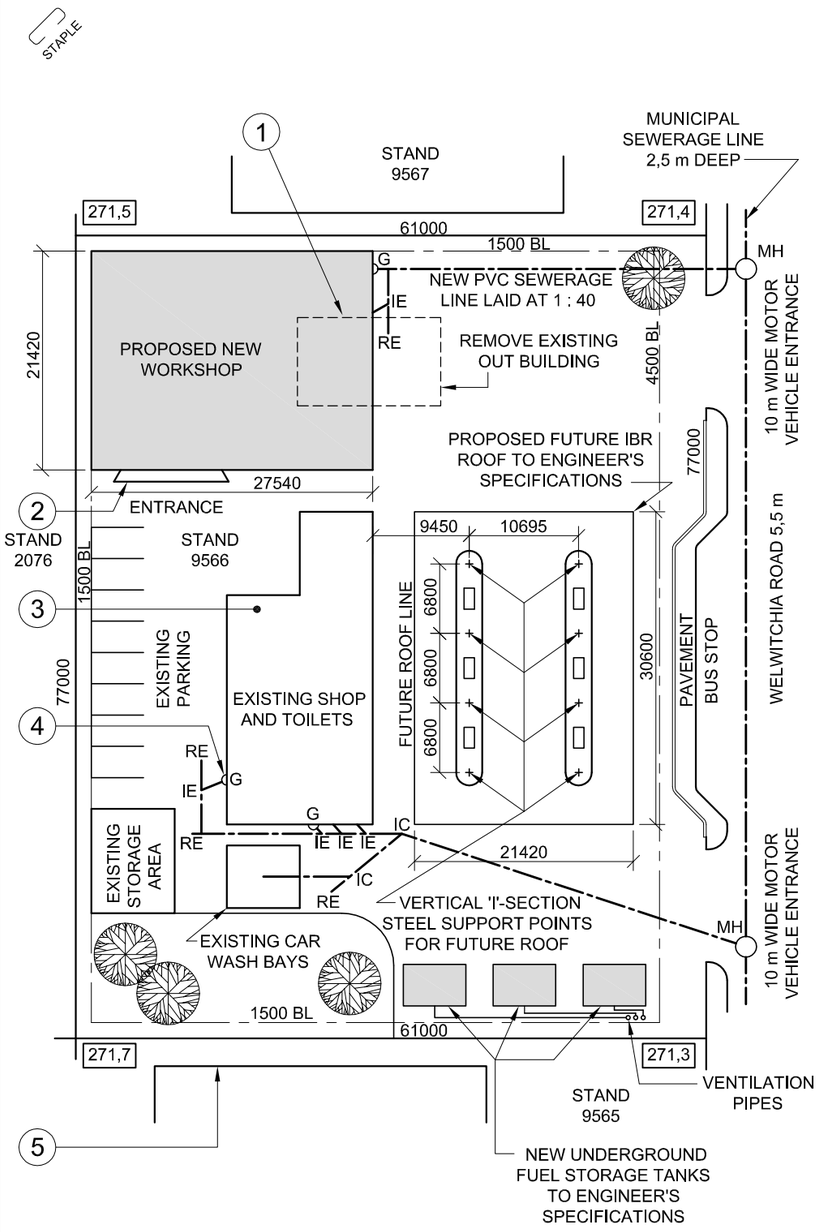


SITE PLAN
SCALE 1 : 500

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.

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	DATE OF PRINT
TIMELESS PRINTERS	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	DRAWING NUMBER
SSA/FS/-2015	TH 15-05-R4K/J

DATE	DRAWN	CHECKED	SCALE
2015-09-04	TOM	HARRY	1 : 500

REFERENCE CODE
1QP1-2015

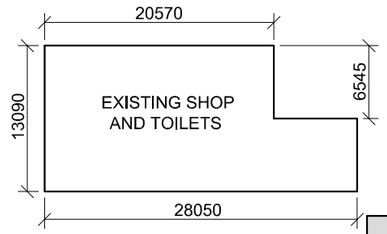
QUESTION 1: ANALYTICAL (CIVIL)

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 *SANS 10143* 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

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	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 m² [calculation 1, answer 1, metres² 1]	3
20	*See below*	4

TOTAL: 30

ANSWER 18
Show ALL calculations.

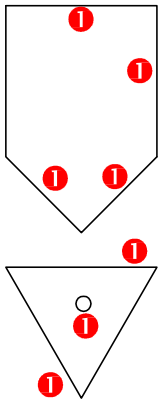
20,57 + 6,545 + 7,48 + 6,545 + 28,05 + 13,09 = 82,28 m

ANSWER 19
Show ALL calculations.

(20,57 x 13,09) + (6,545 x 7,48)
269,2613 + 48,9566
318,2179 m²

20

FREEHAND 1



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

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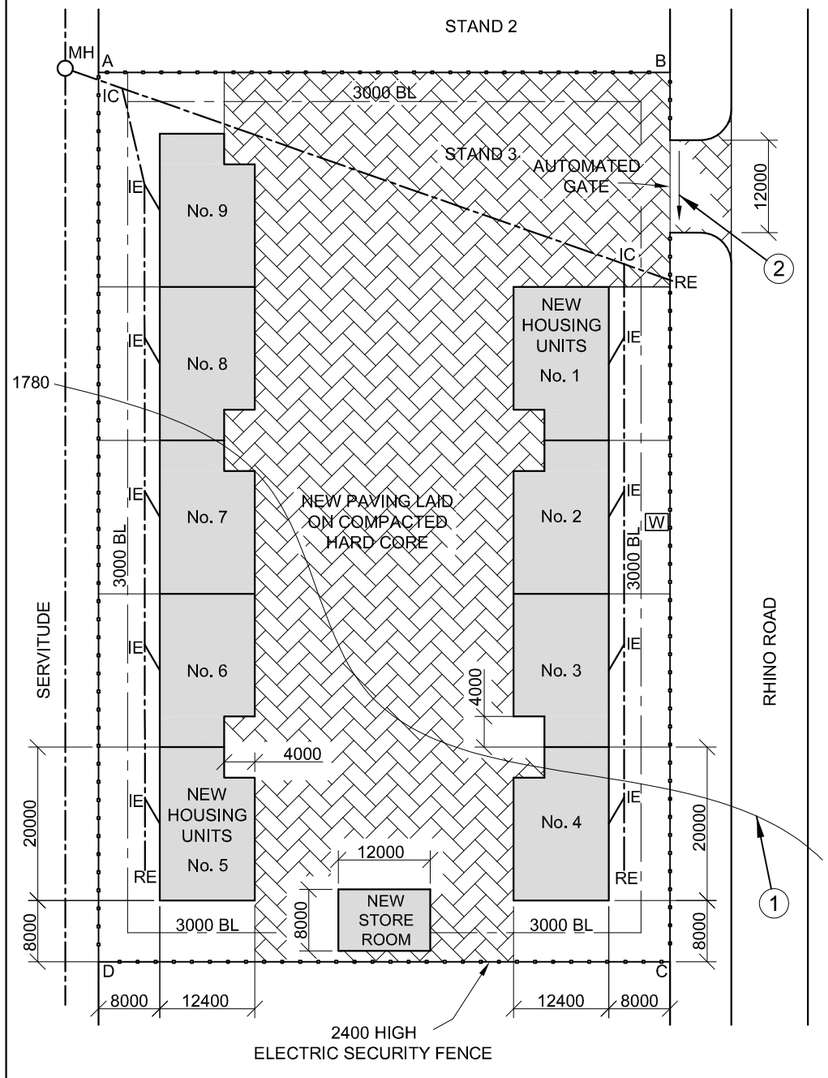
STAPLE

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	DATE OF PRINT
NAT PRINTERS	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	DRAWING NUMBER
2015-RR-07	EP 3-01-2016

DATE	DRAWN	CHECKED	SCALE
2015/07/07	WILLIAM	VERNON	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. **[30]**

	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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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 m² [calculations 2, answer 1, metres² 1]	4
20		3
	TOTAL	**30**

ANSWER 18
Show ALL calculations.

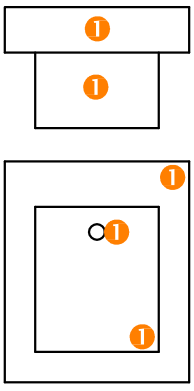
L = 2 (L + B)
= (2 x 74569) + (2 x 116000) ✓1
= 149,138 + 232,000
= 381,138

= 381,138 - GATE
= 381,138 - 12,000
= 369,138 of 369,14 ✓1 ✓1

ANSWER 19
Show ALL calculations.

B A =9[(12,4 x 20) - (4 x 4)] + (12 x 8) ✓1 ✓1
=9(248 - 16) + 96
= 2088 + 96
= 2184 m² ✓1 ✓1

ANSWER 20
FREEHAND 1



PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2016
MEMORANDUM

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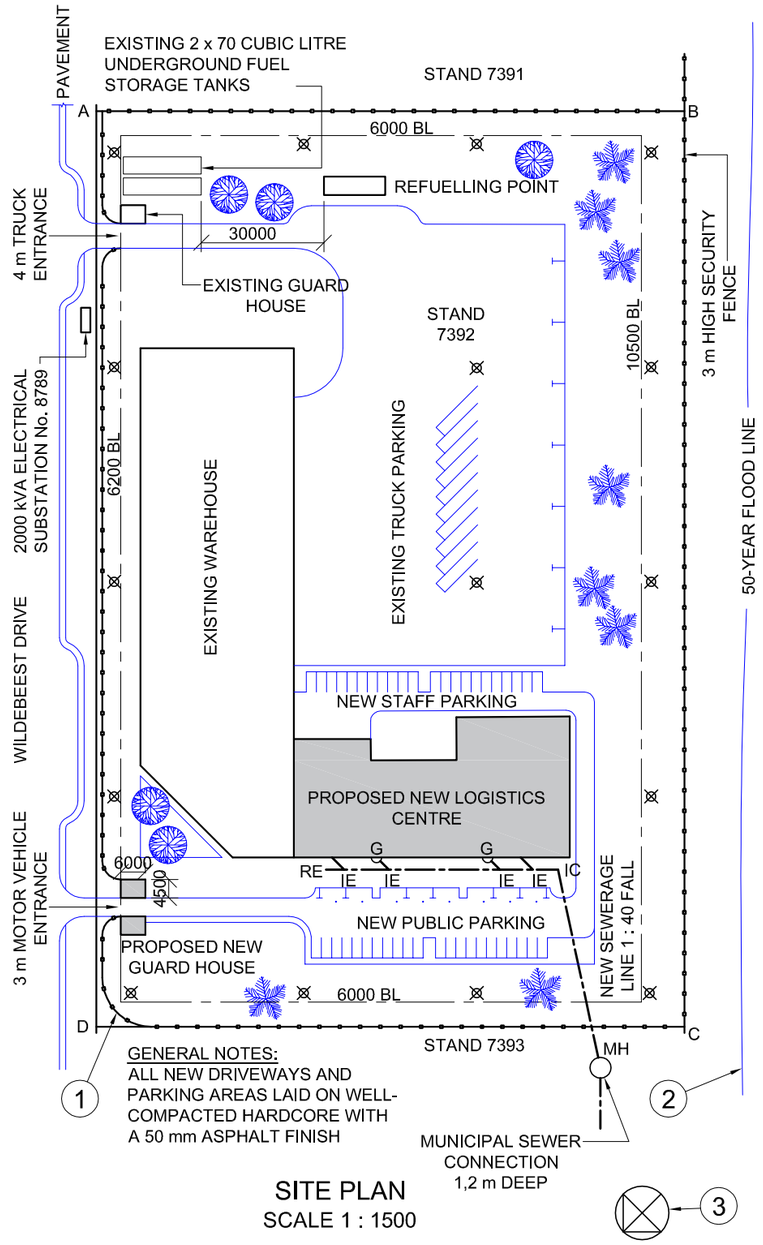
STAPLE

CORNER HEIGHTS AND BOUNDARY LENGTHS IN METRES			
A	137,38	AB	143,56
B	134,67	BC	223,91
C	133,5	CD	143,89
D	136	DA	223,87

SYMBOL LEGEND:
1. 25 m HIGH LAMP POSTS SPACED MAXIMUM 50 m c/c
2. EXISTING PALM TREES
3. NEW DECIDUOUS TREES



SITE PLAN
SCALE 1 : 1500

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.

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

3D STUDIO
ARCHITECTS
1024 FOREST DRIVE
ISIPINGO
☎ 031 555 2792

PRINTED BY	DATE OF PRINT
FAST 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	DRAWING NUMBER		
SSA/FS/-2015	LF 5-10-BPK/N		
DATE	DRAWN	CHECKED	SCALE
2017-01-05	NM	LUKE	1 : 1500

REFERENCE CODE
V1V1-2017

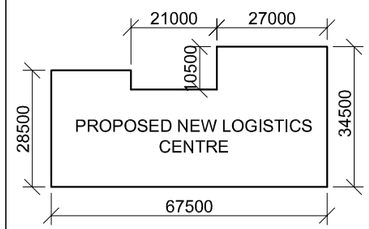
QUESTION 1: ANALYTICAL (CIVIL)

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

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	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, metre² 1)	3
20	*See below*	4

TOTAL: 30

ANSWER 18
Show ALL calculations.

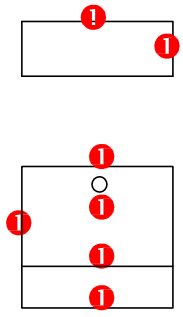
L+L+L+L
=143,560+223,910+143,890+223,870
= 735,23 m

ANSWER 19
Show ALL calculations.

(LxB)+(LxB)+(LxB)
=(19,5x28,5)+(21x24)+(27x34,5)
= 1991,25 m^2

20

FREEHAND 1



PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES

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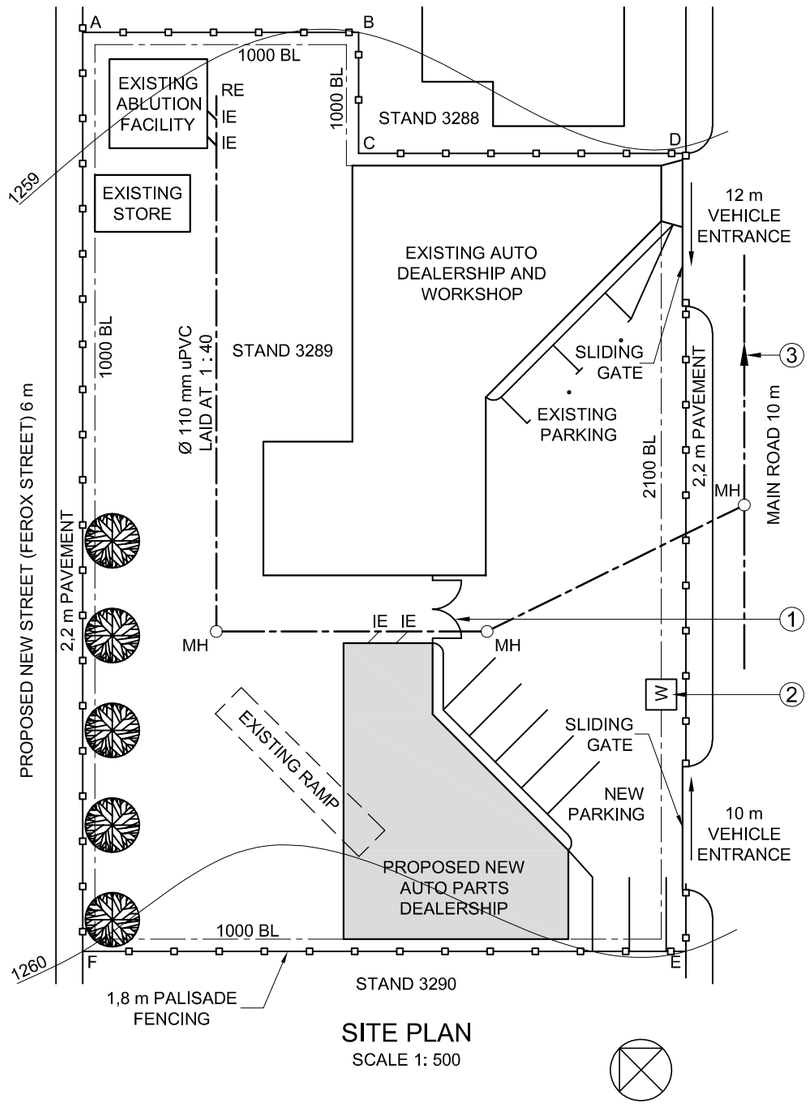
STAPLE

LAND SURVEYOR'S CERTIFICATE OF THE BOUNDARY LENGTHS AND CORNER HEIGHTS OF STAND 3289, SURVEYED ON 2017-08-31	
BOUNDARY LENGTHS IN MILLIMETRES	CORNER HEIGHTS IN METRES
AB = 22500	A = 1259
BC = 9850	B = 1259
CD = 26690	C = 1259
DE = 65050	D = 1259
EF = 49190	E = 1260
FA = 74900	F = 1260



SITE PLAN
SCALE 1: 500

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 19
In the space below, draw, in neat freehand and according to the *SANS 10143:*
a) FACE BRICK hatching
b) The graphical symbol for a GULLY

a)

b)

REVISION	DATE	DESCRIPTION

FRESH DESIGNS
51 Munnik Street
Bray
010 810 4321
fd.architects@gmail.com

PRINTED BY:	DATE OF PRINT:
I-PRINT	2018-05-21

DRAWING TITLE:
SITE PLAN

PROJECT:
PROPOSED NEW AUTO PARTS DEALERSHIP FOR REGROW HOLDINGS ON STAND 3289, MAIN ROAD, PORT ELIZABETH.

PROJECT NUMBER:	DRAWING NUMBER:		
FDBS-2018	1 OF 7		
DATE:	DRAWN:	CHECKED:	SCALE:
2018-04-05	MP	CIC	1 : 500
REFERENCE CODE:			
Q1P1-2018			

QUESTION 1: ANALYTICAL (CIVIL)

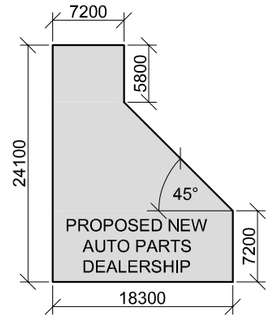
Given:
The site plan of an existing auto dealership and workshop with a proposed new auto parts dealership, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

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

	QUESTIONS	ANSWERS			
1	What is the title of the drawing?		1		
2	On what date was the drawing prepared?		1		
3	What scale is indicated for the drawing?		1		
4	What is the name of the proposed new street?		1		
5	How many existing buildings are there on STAND 3289?		1		
6	How many parking bays are shown?		1		
7	What does the abbreviation *RE* stand for?		1		
8	How wide are the pavements in millimetres?		1		
9	What do the two arcs at 1 indicate?		1		
10	Name the feature at 2.		1		
11	How many manholes are shown?		1		
12	What type of fencing surrounds STAND 3289?		1		
13	What feature is shown on STAND 3288?		1		
14	What is the number of the STAND south west of STAND 3289?		2		
15	Why is the existing ramp shown with broken lines?		1		
16	What does the arrow on the line at 3 indicate?		1		
17	What is the fall of the sewer line?		1		
18	In what colour could new concrete be indicated on a layout drawing?		1		
19	In the space in the title panel (ANSWER 19), draw, in neat freehand and according to the *SANS 10143* a) FACE BRICK hatching, and b) the graphical symbol for a GULLY.		4		
20	In the space below (ANSWER 20), determine the total length of the fence in metres.		4		
21	In the space below (ANSWER 21), determine the total area of the proposed new auto parts building in square metres. Round off the answer to THREE decimal places.		3		
		TOTAL	**30**		

ANSWER 20
Show ALL calculations.

ANSWER 21
Show ALL calculations.



EXAMINATION NUMBER	
EXAMINATION NUMBER	2

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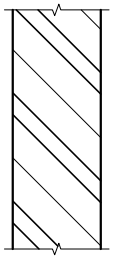
ANSWERS		
1	SITE PLAN	1
2	2018 - 04 - 05	1
3	1 : 500	1
4	FEROX STREET	1
5	3	1
6	8	1
7	RODDING EYE	1
8	2200	1
9	GATE SWING	1
10	ELECTRICAL METER/WATT METER	1
11	3	1
12	PALISADE	1
13	WALL/STRUCTURE/BUILDING	1
14	3290	2
15	MUST BE REMOVED	1
16	DIRECTION OF FLOW	1
17	1 : 40	1
18	GREEN	1
19	*See the title panel*	4
20	226,18 m (calculation 2, answer 1, converted to metre 1)	4
21	315.045 m² (calculation 1, answer 1, metre² 1)	3
	TOTAL	**30**

ANSWER 19

a)

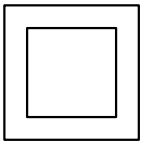


FACE BRICK hatching
MARK ALLOCATION
- DOUBLE-SINGLE-DOUBLE 1
- FREEHAND $\frac{1}{2}$

TOTAL $1\frac{1}{2}$

b)

FREEHAND $\frac{1}{2}$



GULLY MARK ALLOCATION
2 SQUARES or RECTANGLES
TOTAL 2

ANSWER 20

Perimeter = (22,5 + 9,85 + 26,69 + 65,05 + 49,19 + 74,9) - (12 + 10)
= 248,18 m - 22 m
= 226,18 m

ANSWER 21

Area = (7200 x 24100) + (11100 x 7200) + $\frac{1}{2}$(11100 x 11100)
= 173,52 + 79,92 + 61,605
= 315,045 m²

PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

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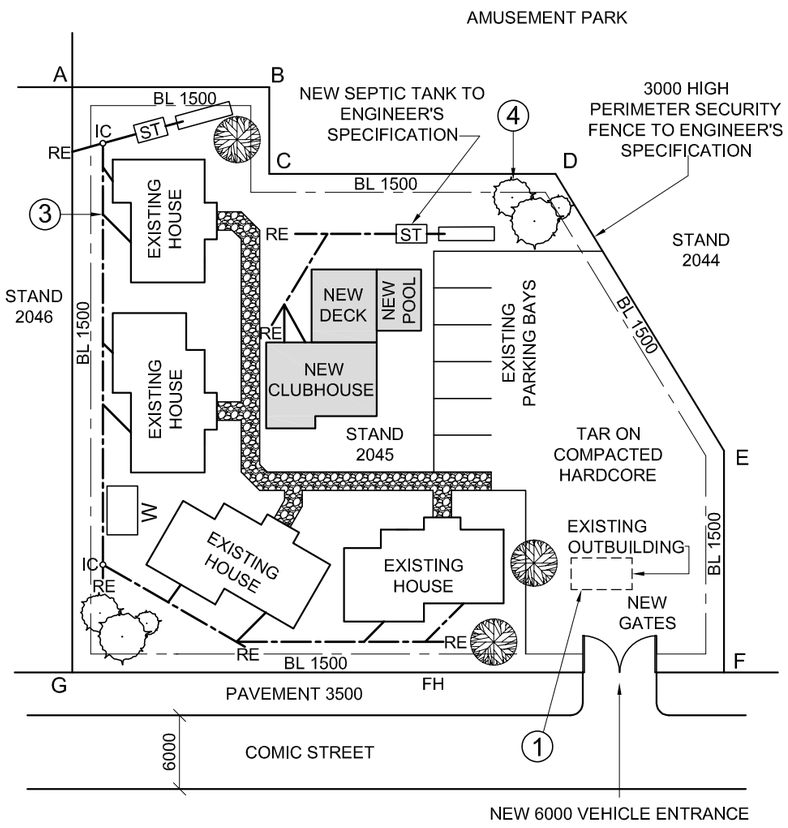
STAPLE

LAND SURVEYOR'S CERTIFICATE OF THE CORNER HEIGHTS AND BOUNDARY LENGTHS OF STAND 2045, SURVEYED ON 2018-09-17	
CORNER HEIGHTS IN METRES	BOUNDARY LENGTHS IN METRES
A = 876,0	AB = 16,06
B = 876,1	BC = 7,05
C = 876,0	CD = 23,36
D = 876,3	DE = 26,41
E = 876,3	EF = 18,07
F = 876,4	FG = 53,16
G = 876,4	GA = 47,69

SYMBOL LEGEND:

1. DECIDUOUS TREES
2. SHRUBBERY
4. GRAVEL PATHWAY
3. FRENCH DRAIN



SITE PLAN
SCALE 1 : 500

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.

REVISION	DATE	DESCRIPTION
3	2018-12-20	ADD SWING GATES
2	2018-11-18	ADD SEWER LINES
1	2018-11-17	REMOVE DECIDUOUS TREE

CREATIVE ARCHITECTS
777 BEREA ROAD
DURBAN
www.c-arch.co.za
031 334 9762

PRINTED BY: KRYPTON (PTY) LTD
DATE OF PRINT: 2018-12-28

DRAWING TITLE: SITE PLAN

PROJECT: PROPOSED CLUBHOUSE, DECK AND POOL FOR LOIS CHALET ON STAND 2045, 4 COMIC STREET, DURBAN, 4091

PROJECT NUMBER: FLY-2018
DRAWING NUMBER: 1818
DATE: 2018-11-18
DRAWN: CLARK
CHECKED: KENT
SCALE: 1 : 500
REFERENCE CODE: SMAN-2018

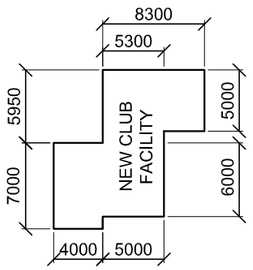
QUESTION 1: ANALYTICAL (CIVIL)

Given:
The site plan of an existing housing development with a proposed new club facility, 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, title panel and civil content. **[30]**

QUESTIONS		ANSWERS			
1	Who prepared the drawing?		1		
2	What is the drawing number?		1		
3	What company printed the drawing?		1		
4	On what date was the last revision made?		1		
5	What must the contractors do before commencing with any work?		1		
6	What is the finish on the pathway?		1		
7	How wide is the new entrance to STAND 2045 in metres?		1		
8	What is the STAND number of the amusement park?		1		
9	What colour is used to represent new sewer lines on a drainage plan?		1		
10	What does the abbreviation *BIC* stand for?		1		
11	What does the broken line at 1 indicate?		1		
12	What does the symbol at 2 indicate?		1		
13	What is the abbreviation of the component that you will find at the junction at 3?		1		
14	Name the feature at 4.		1		
15	What are the final TWO components of the sewerage system?		2		
16	Which elevation of the clubhouse faces Comic street?		1		
17	What features make up the new club facility?		3		
18	In the space below (ANSWER 18), determine the total length of the perimeter of STAND 2045 in metres.		3		
19	In the space below (ANSWER 19), determine the total area of the new club facility 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 SINGLE WALL-MOUNTED URINAL.		4		
		TOTAL	**30**		

ANSWER 18
Show ALL calculations.



ANSWER 19
Show ALL calculations.

EXAMINATION NUMBER	
EXAMINATION NUMBER	2

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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

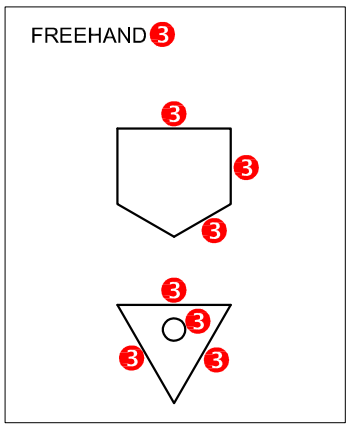
AB + BC + CD + DE + EF + FG + GA
= 16.06 + 7.05 + 23.36 + 26.41 + ✓
18.07 + 53.16 + 47.69
= 191.80 m ✓✓

ANSWER 19

AREA = (5 x 6) + (7 x 4) ✓
= 30 + 28
= 58m²
= 5.3 x 5.95
= 31.54m²
= 3 x 5
= 15m²

AREA = 58 + 31.54 + 15
= 104.54m² ✓✓

ANSWER 20



PAPER 1 QUESTION 1
GRADE 12
NOVEMBER 2019
MARKING GUIDELINES

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GRADE 12 NSC

PAST QUESTIONS ON

INTERPENETRATION AND DEVELOPMENT

PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS

STAPLE

QUESTION 2: INTERPENETRATION AND DEVELOPMENT

Given:

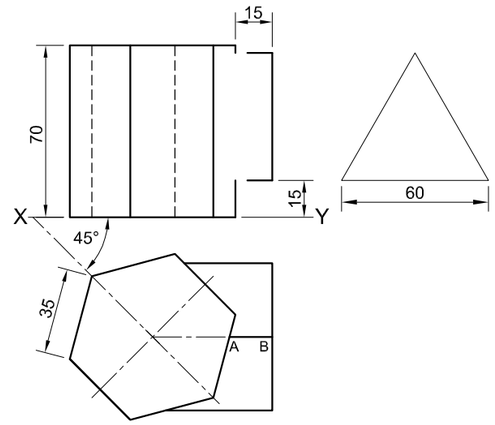
- The incomplete front view and top view of an equilateral triangular prism that has been shaped to fit around a right regular hexagonal prism. The axes of both prisms lie in a common vertical plane.
- An auxiliary view of the triangular prism.

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

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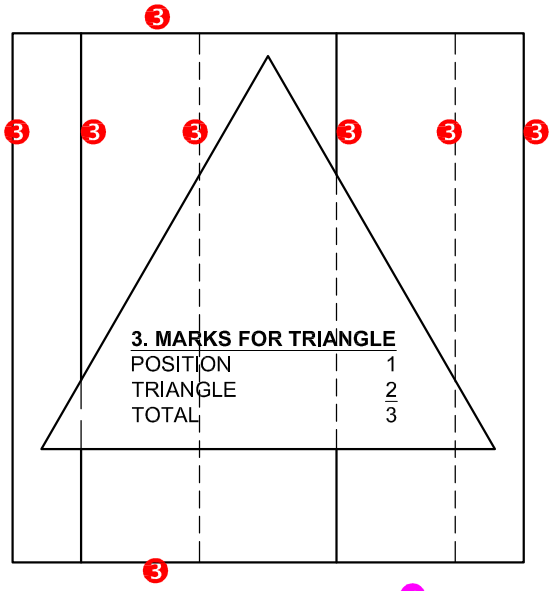

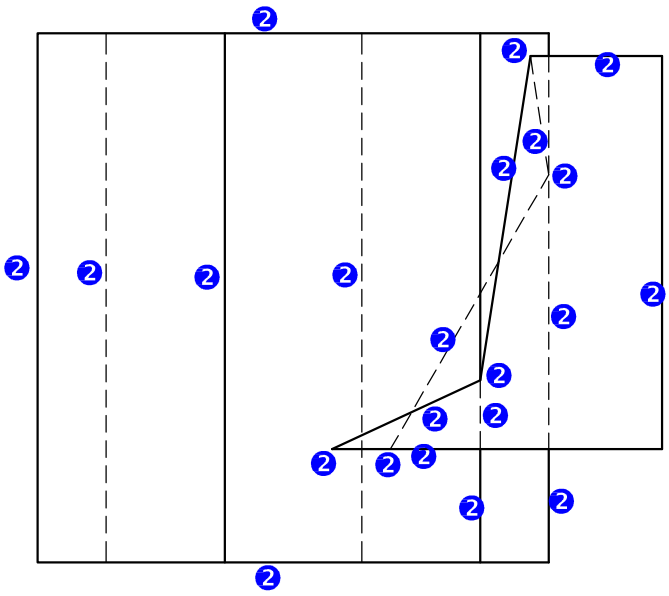

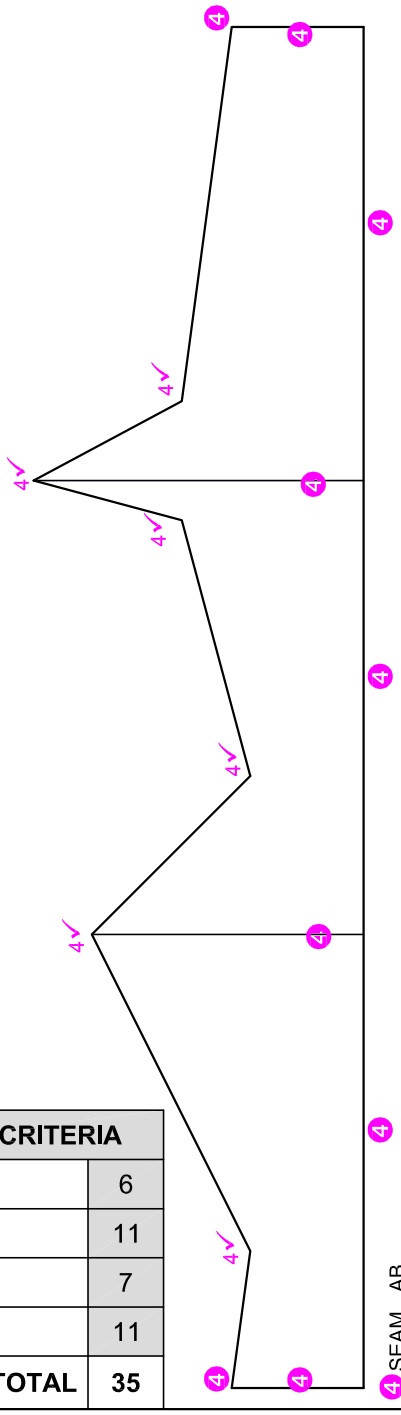

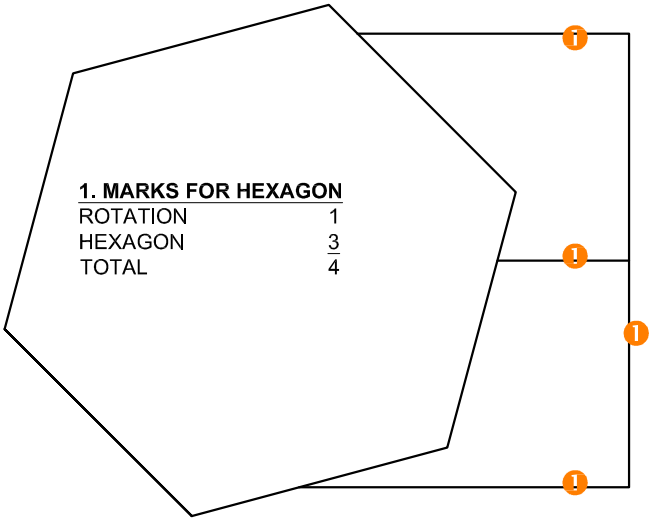

ASSESSMENT CRITERIA		
1	TOP VIEW	6
2	FRONT VIEW	11
3	RIGHT VIEW	7
4	DEVELOPMENT	11
	TOTAL	**35**

PAPER 1 QUESTION 2
GRADE 12
November 2015
MEMORANDUM

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STAPLE

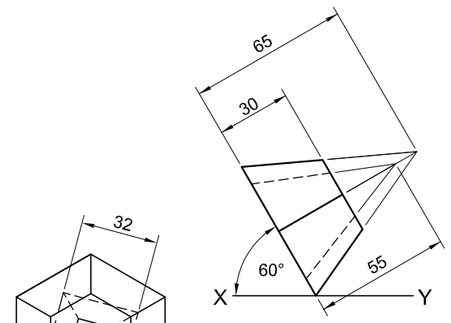
QUESTION 2: SOLID GEOMETRY

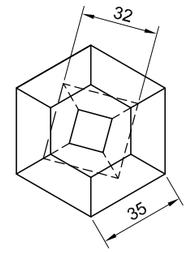
Given:
The front view and an auxiliary view of a truncated right regular hexagonal pyramid with a centrally placed right square pyramidal hole.

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	$7\frac{1}{2}$				
2	TOP VIEW	15				
3	LEFT VIEW	$17\frac{1}{2}$				
PENALTIES (-)						
	TOTAL	**40**				

EXAMINATION NUMBER	
EXAMINATION NUMBER	3

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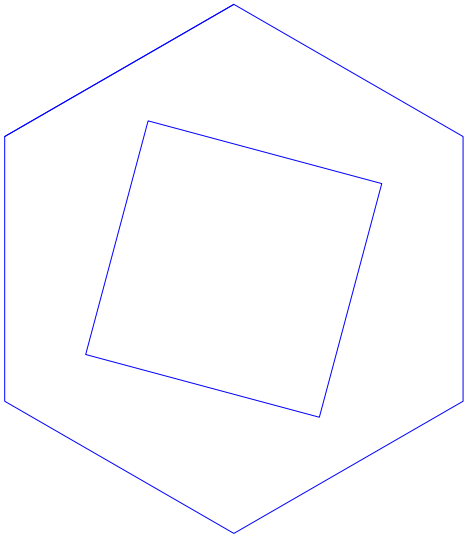
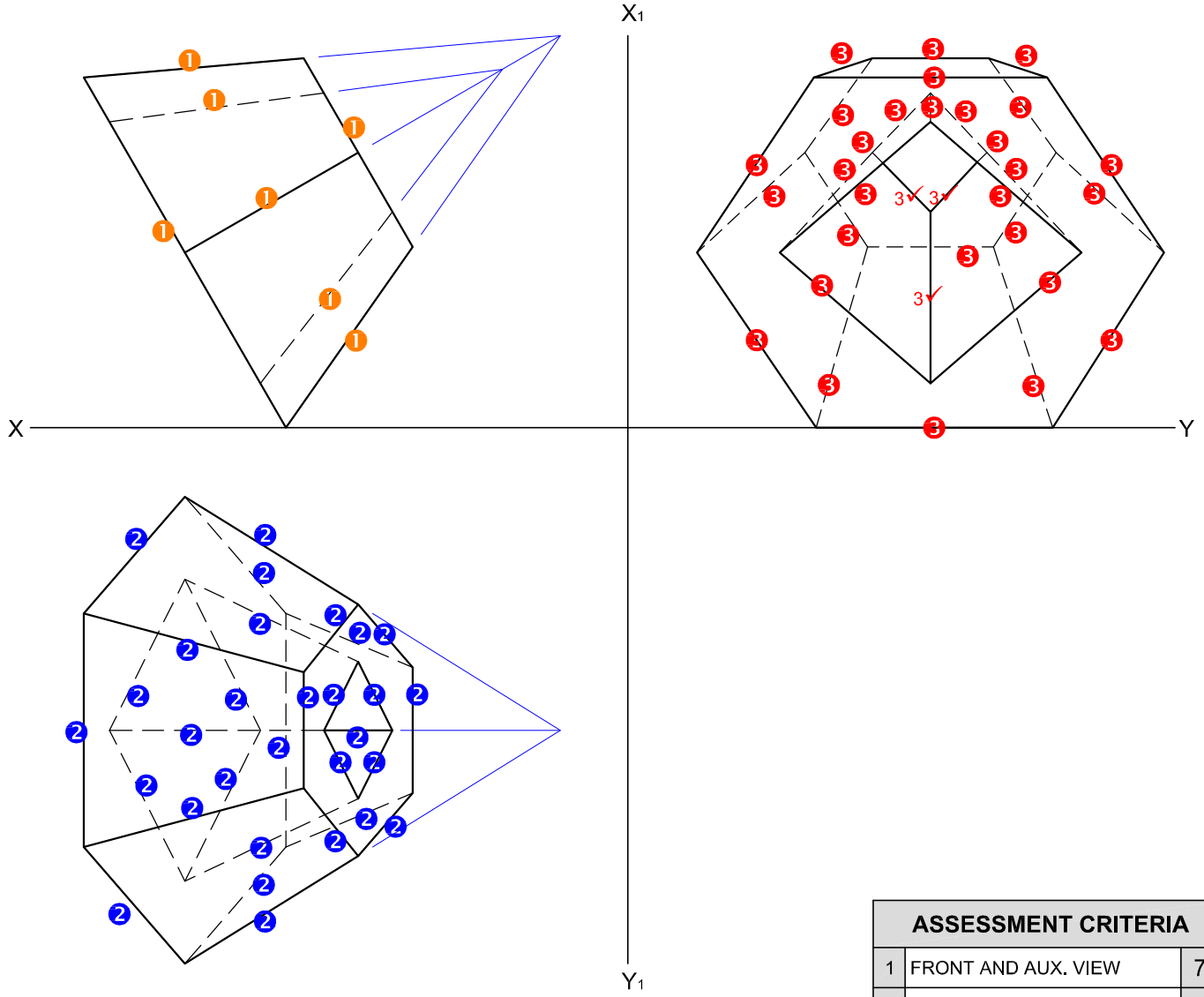


ANY ACCEPTABLE
CONSTRUCTION METHOD
USED FOR THE
AUXILIARY VIEW
1✓✓✓✓



ASSESSMENT CRITERIA		
1	FRONT AND AUX. VIEW	$7\frac{1}{2}$
2	TOP VIEW	15
3	LEFT VIEW	$17\frac{1}{2}$
	TOTAL	**40**

PAPER 1 QUESTION 2
GRADE 12
Feb.-Mar.2016
MEMORANDUM

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STAPLE

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:

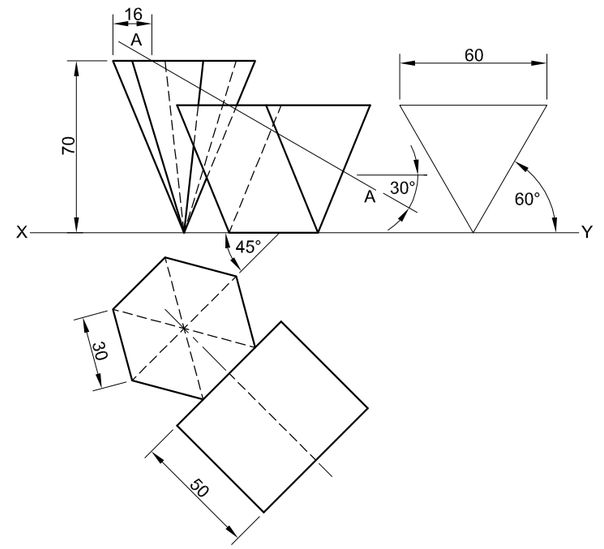
- The two solids do not touch.
- Both solids are cut by cutting plane AA.

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

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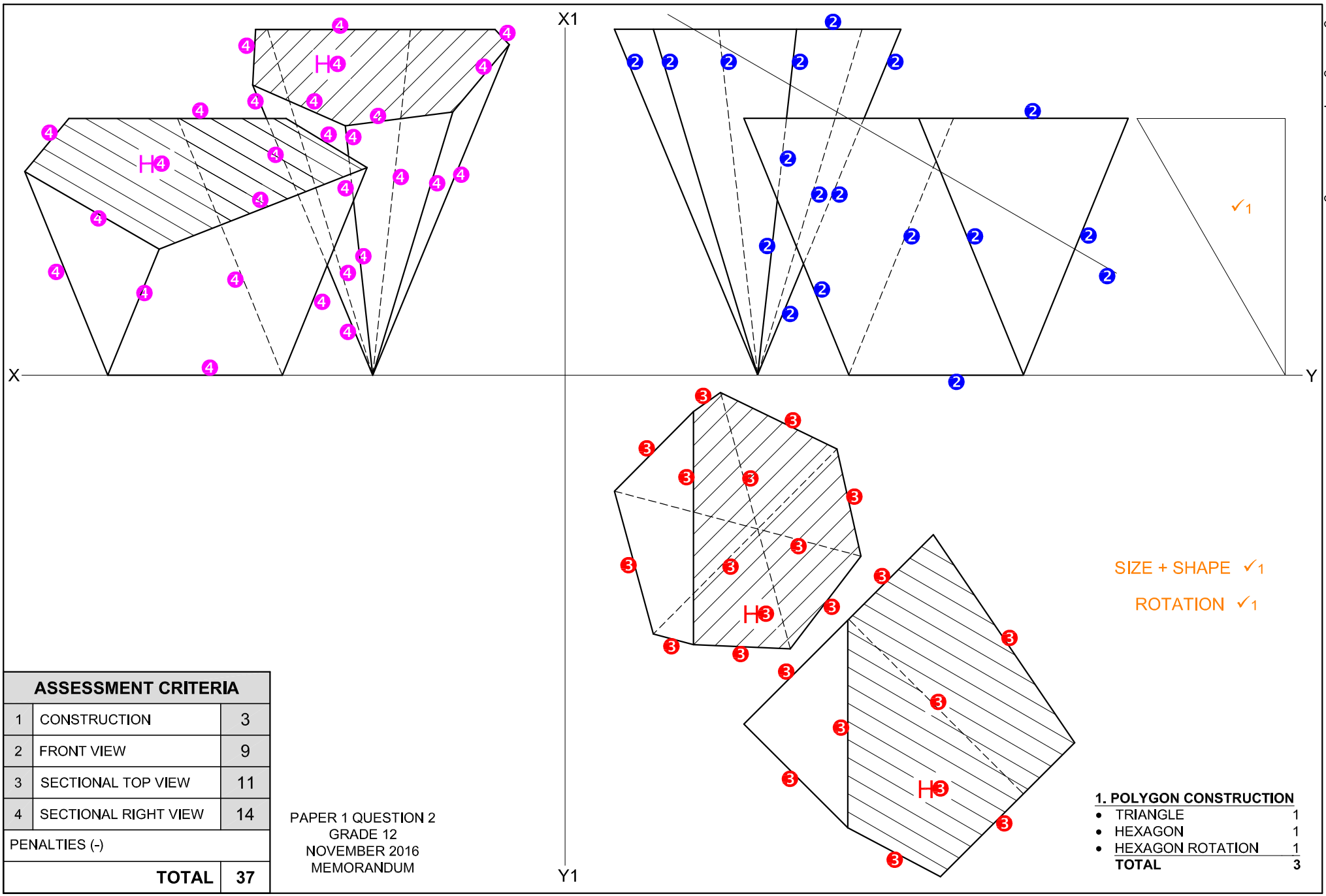

ASSESSMENT CRITERIA		
1	CONSTRUCTION	3
2	FRONT VIEW	9
3	SECTIONAL TOP VIEW	11
4	SECTIONAL RIGHT VIEW	14
PENALTIES (-)		
	TOTAL	**37**

PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2016
MEMORANDUM

1. POLYGON CONSTRUCTION

• TRIANGLE	1
• HEXAGON	1
• HEXAGON ROTATION	1
TOTAL	**3**

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QUESTION 2: SOLID GEOMETRY

Given:

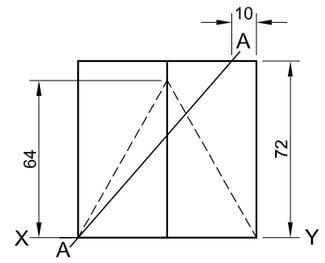
- The front view and the top view of a right regular hexagonal prism with a right regular hexagonal pyramidal hole
- Cutting plane A-A

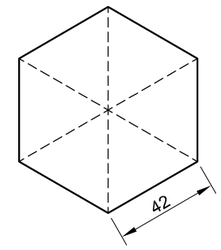
Instructions:

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

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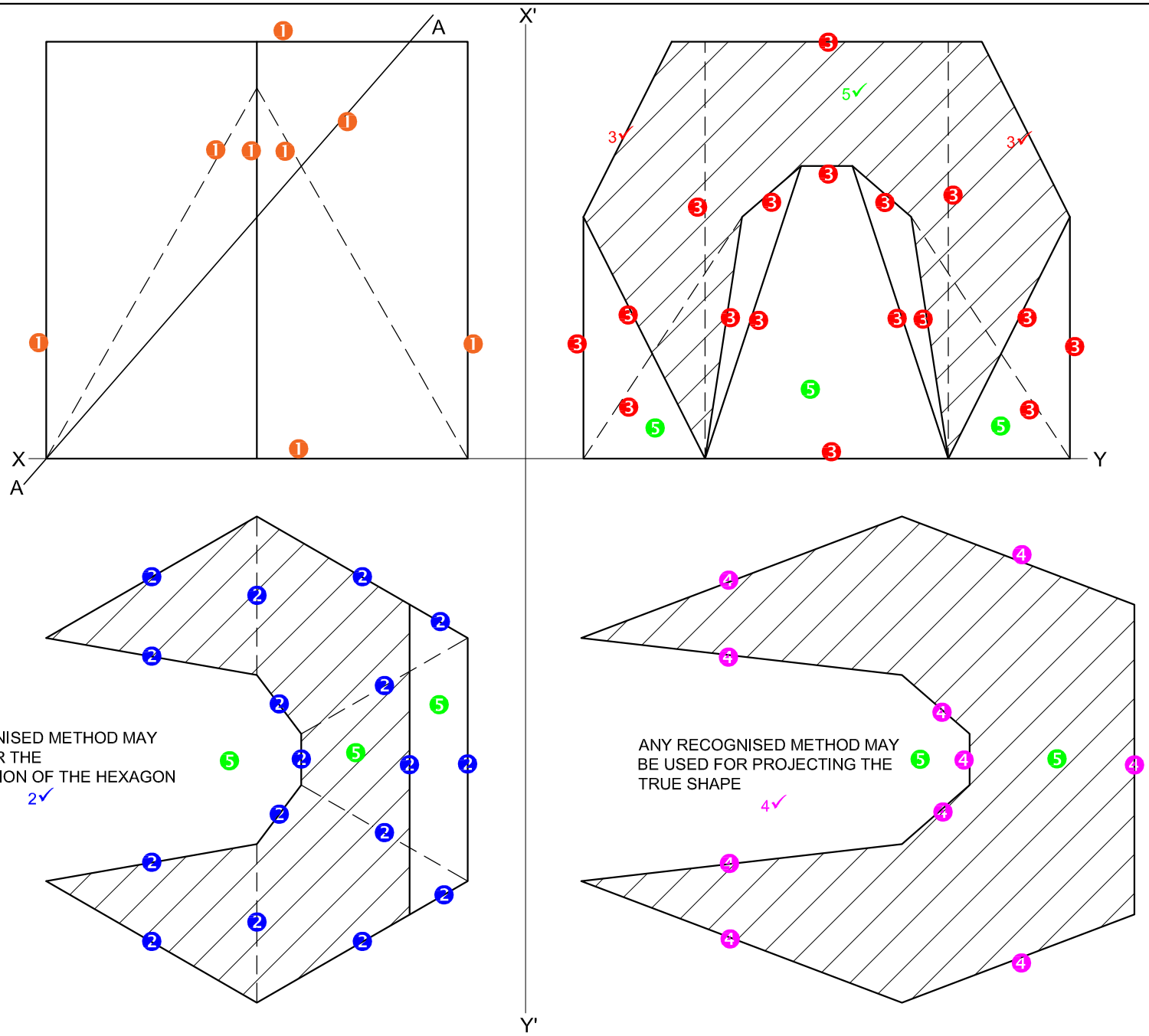
ASSESSMENT CRITERIA		
1	FRONT VIEW	4
2	SECTIONAL TOP VIEW	9½
3	SECTIONAL LEFT VIEW	10½
4	TRUE SHAPE	6
5	HATCHING	5
	TOTAL	**35**



PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2017
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STAPLE

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:

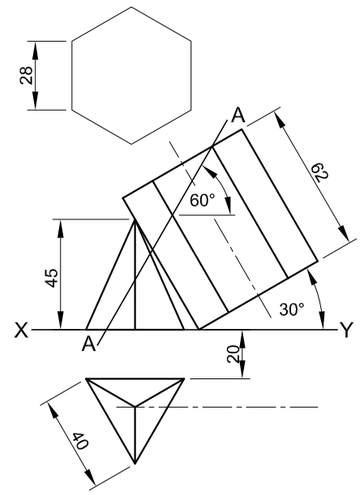
- The prism leans against the pyramid.
- Both solids are cut by cutting plane A-A.

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 $\frac{1}{2}$				
3	SECTIONAL TOP VIEW	14 $\frac{1}{2}$				
4	SECTIONAL LEFT VIEW	12 $\frac{1}{2}$				
5	TRUE SHAPE	6 $\frac{1}{2}$				
PENALTIES (-)						
	TOTAL	**40**				

EXAMINATION NUMBER

EXAMINATION NUMBER 3

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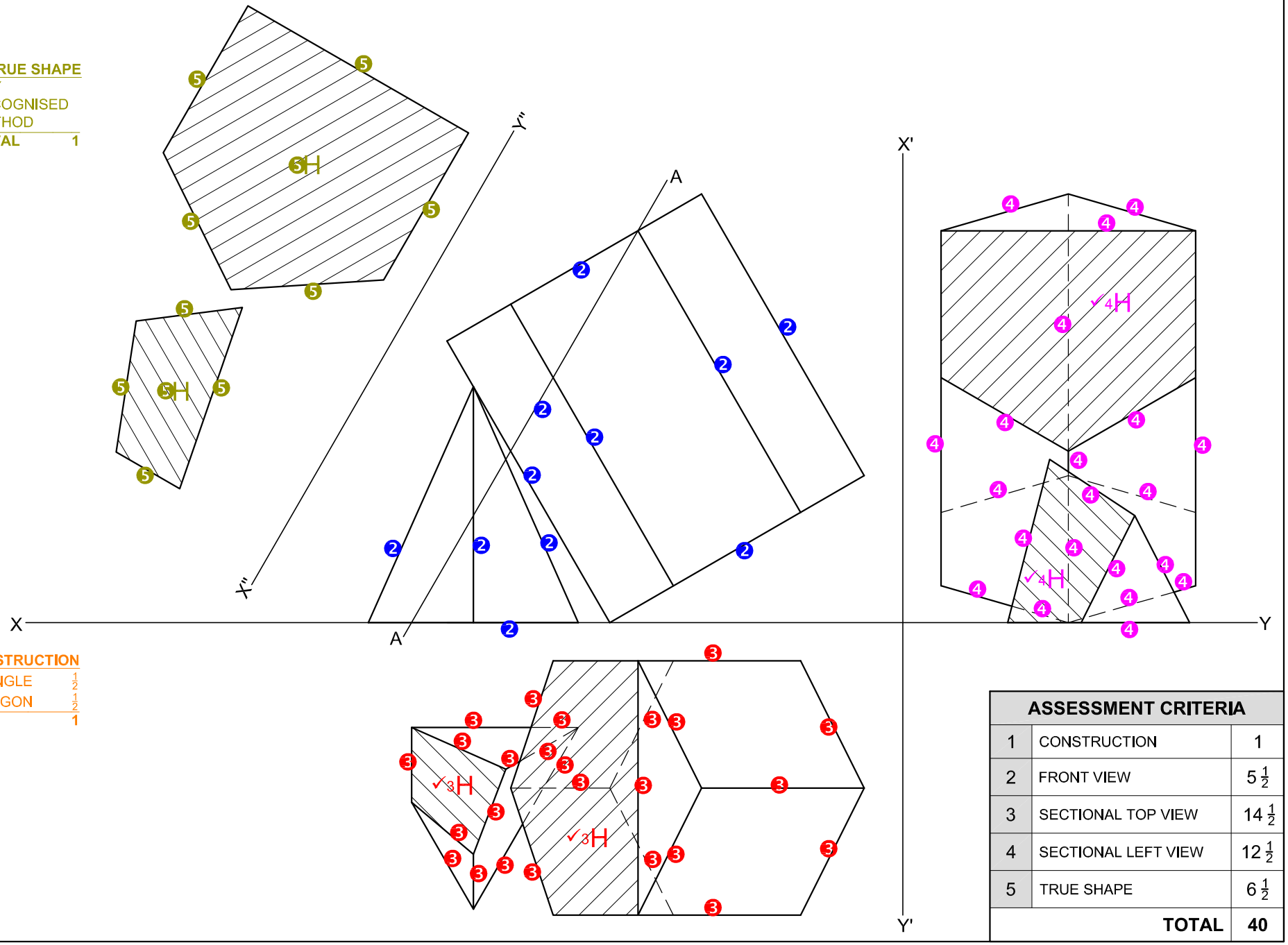
5. TRUE SHAPE
ANY
RECOGNISED
METHOD
TOTAL 1



1. CONSTRUCTION
- TRIANGLE $\frac{1}{2}$
- HEXAGON $\frac{1}{2}$

TOTAL 1

PAPER 1 QUESTION 2
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

ASSESSMENT CRITERIA		
1	CONSTRUCTION	1
2	FRONT VIEW	5 $\frac{1}{2}$
3	SECTIONAL TOP VIEW	14 $\frac{1}{2}$
4	SECTIONAL LEFT VIEW	12 $\frac{1}{2}$
5	TRUE SHAPE	6 $\frac{1}{2}$
	TOTAL	**40**

Please turn over

STAPLE

QUESTION 2: INTERPENETRATION AND DEVELOPMENT

Given:

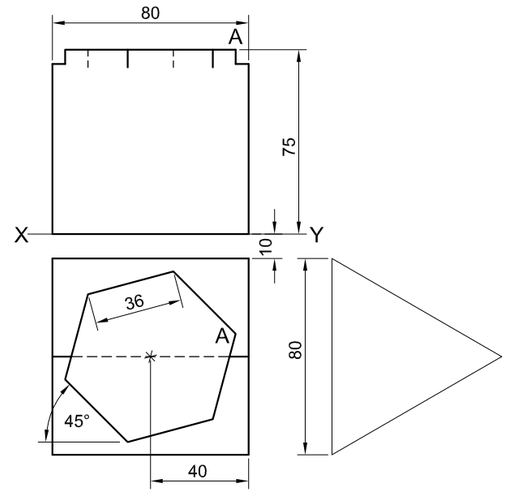
- The top view and incomplete front view of a right regular hexagonal prism that has been shaped to fit over an equilateral triangular prism. The axes of both solids lie in a common vertical plane.
- An auxiliary view of the triangular prism

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 ½			
2	RIGHT VIEW	5			
3	FRONT VIEW	13			
4	DEVELOPMENT	11 ½			
PENALTIES (-)					
	TOTAL	**37**			

EXAMINATION NUMBER

EXAMINATION NUMBER 3

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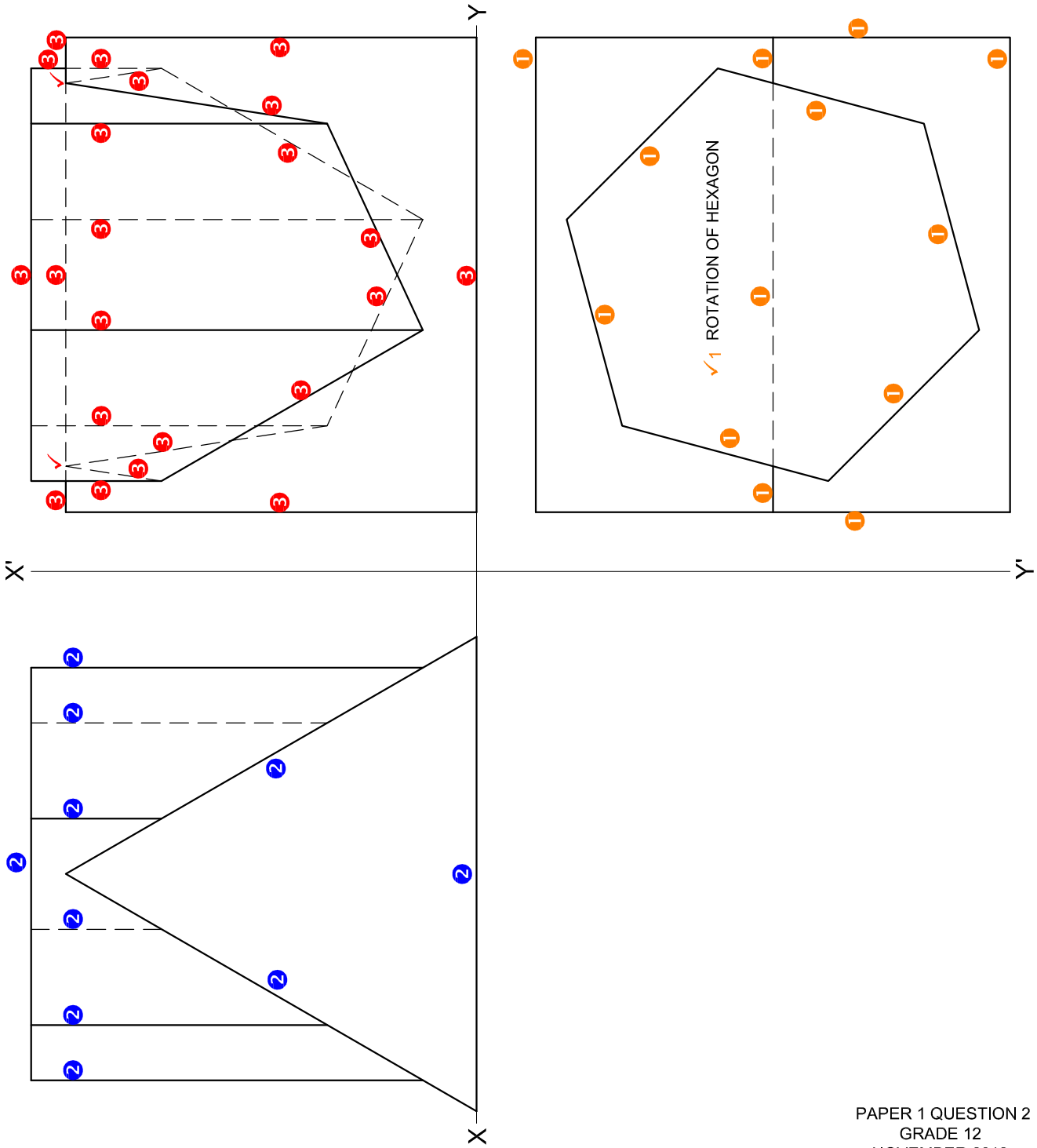
ASSESSMENT CRITERIA		
1	TOP VIEW	$7\frac{1}{2}$
2	RIGHT VIEW	5
3	FRONT VIEW	13
4	DEVELOPMENT	$11\frac{1}{2}$
	TOTAL	37



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GRADE 12
NOVEMBER 2019
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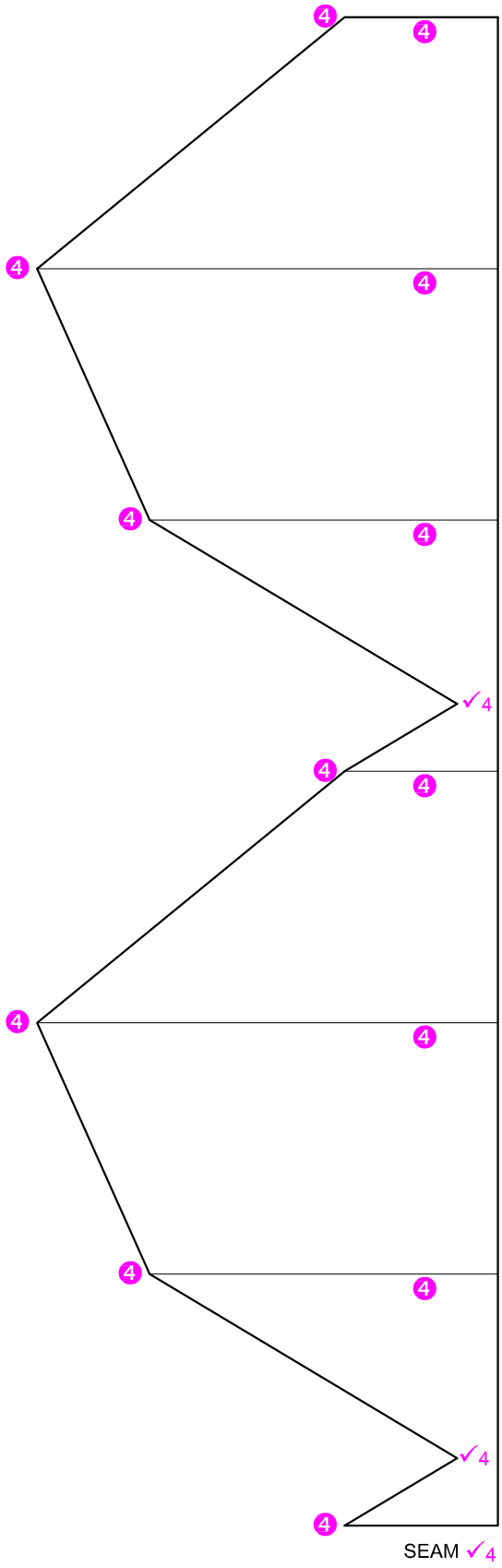

✓4 SIX EQUAL SPACES

✓4 BASE LINE

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GRADE 12
NOVEMBER 2019
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GRADE 12 NSC

PAST QUESTIONS ON

PERSPECTIVE DRAWING

PAPER 1

WITH

MARKING GUIDELINES

EC LEARNERS

STAPLE

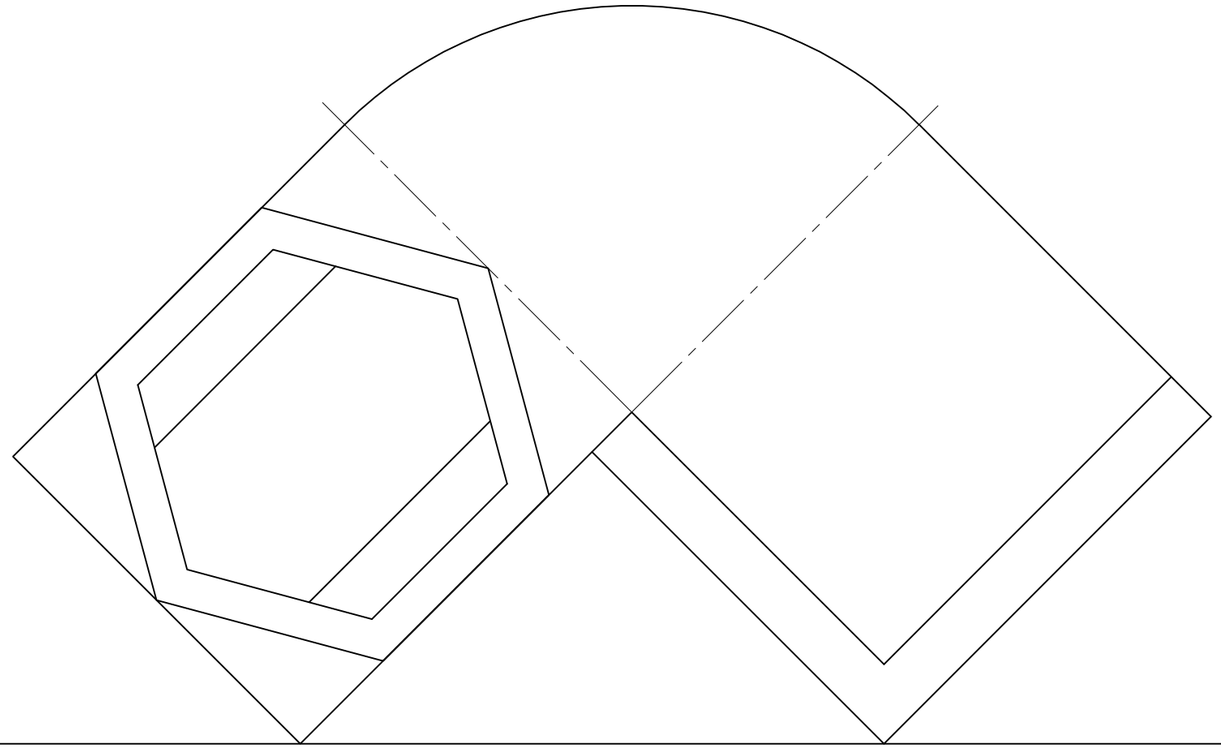
QUESTION 3: PERSPECTIVE

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**			



SP

EXAMINATION NUMBER

EXAMINATION NUMBER 4

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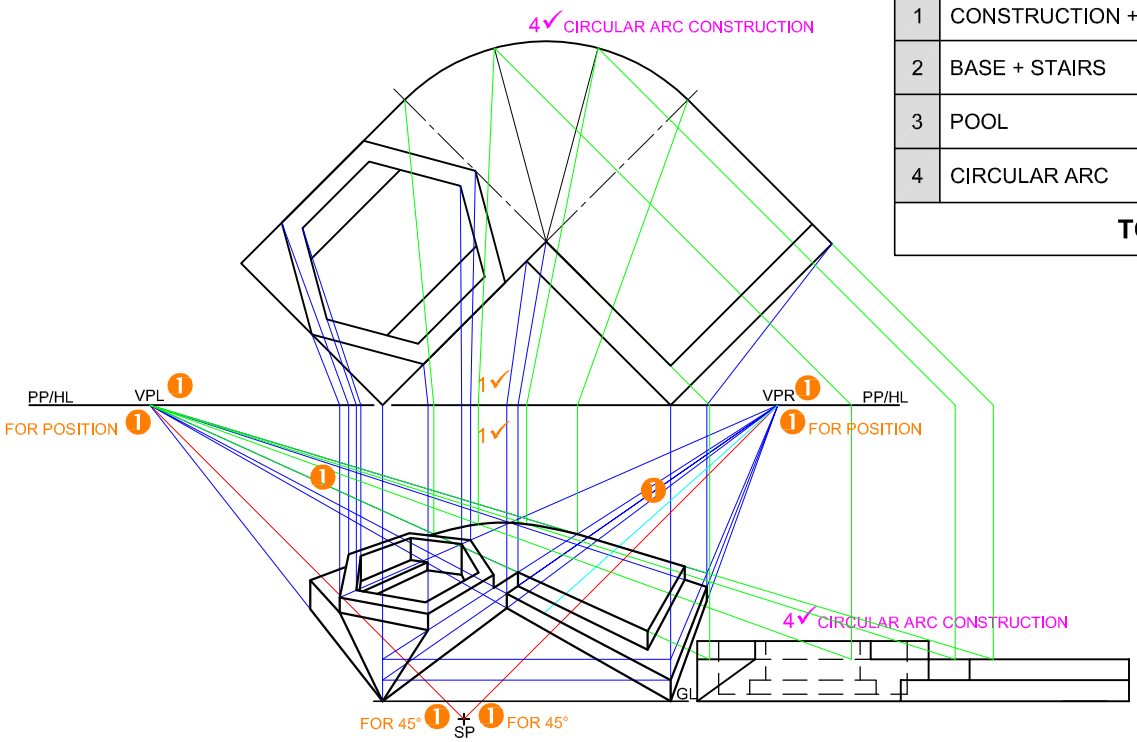
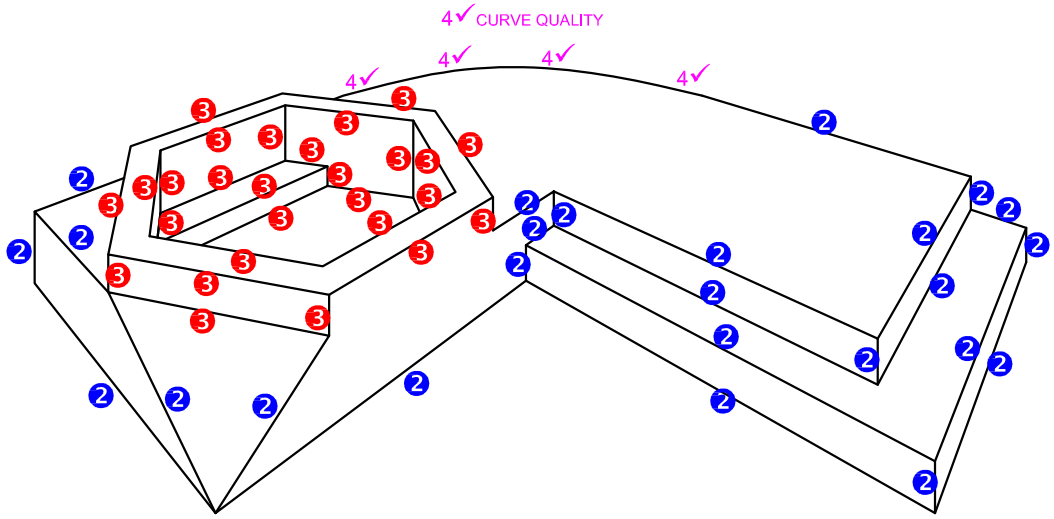
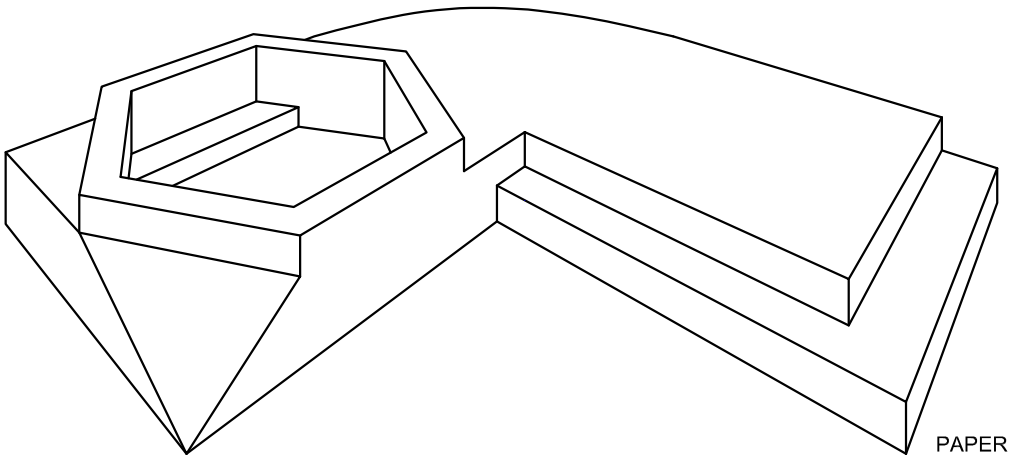
ASSESSMENT CRITERIA		
1	CONSTRUCTION + VPs	6
2	BASE + STAIRS	12½
3	POOL	13½
4	CIRCULAR ARC	7
	TOTAL	**39**







SP

PAPER 1 QUESTION 3
GRADE 12
November 2015
MEMORANDUM

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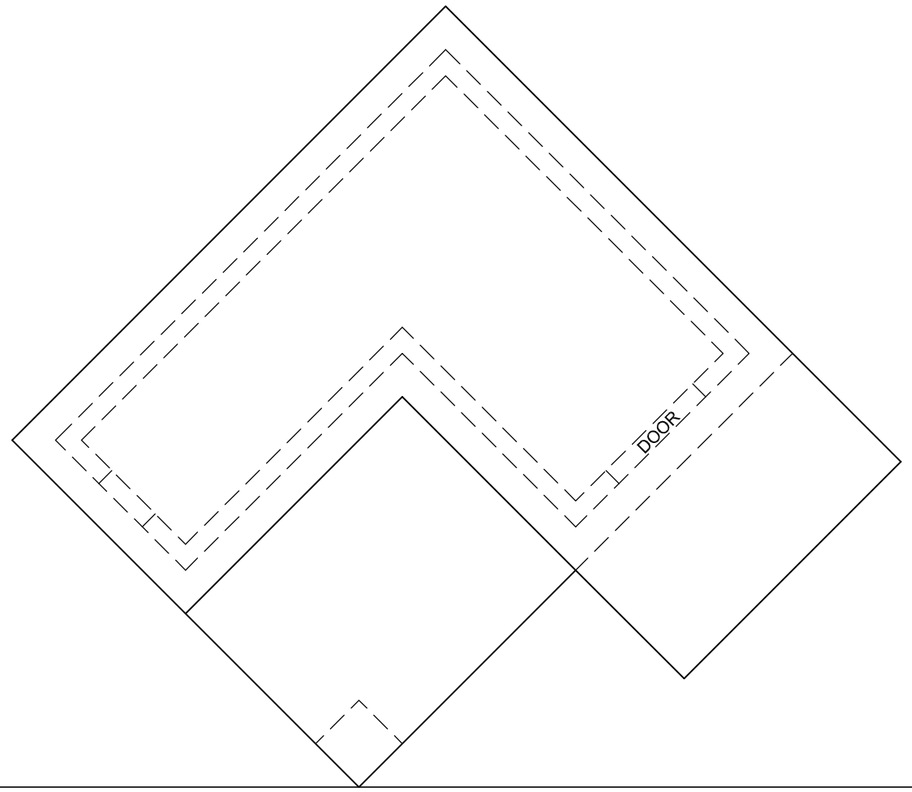


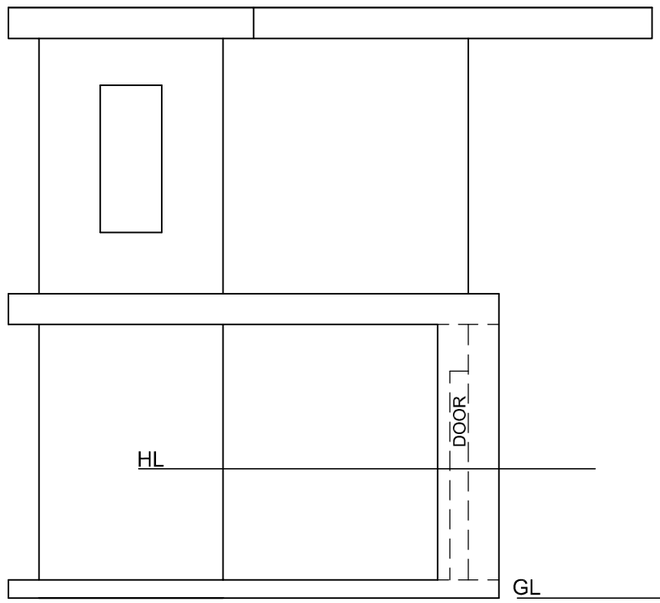
QUESTION 3: PERSPECTIVE

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**			



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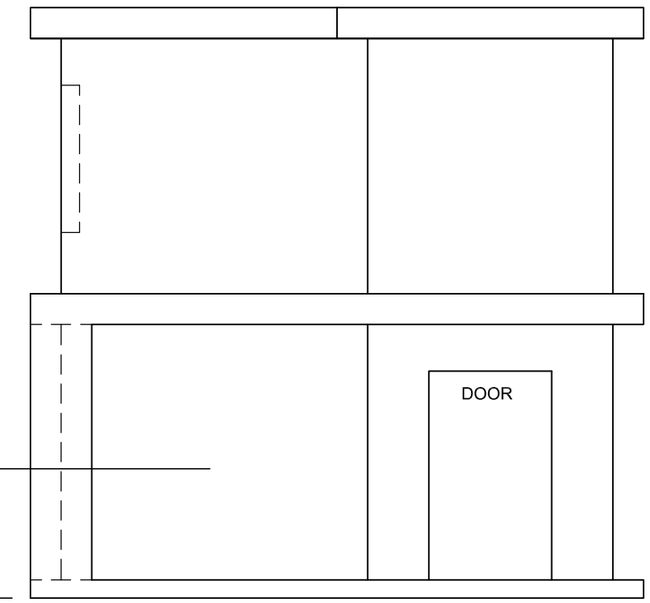

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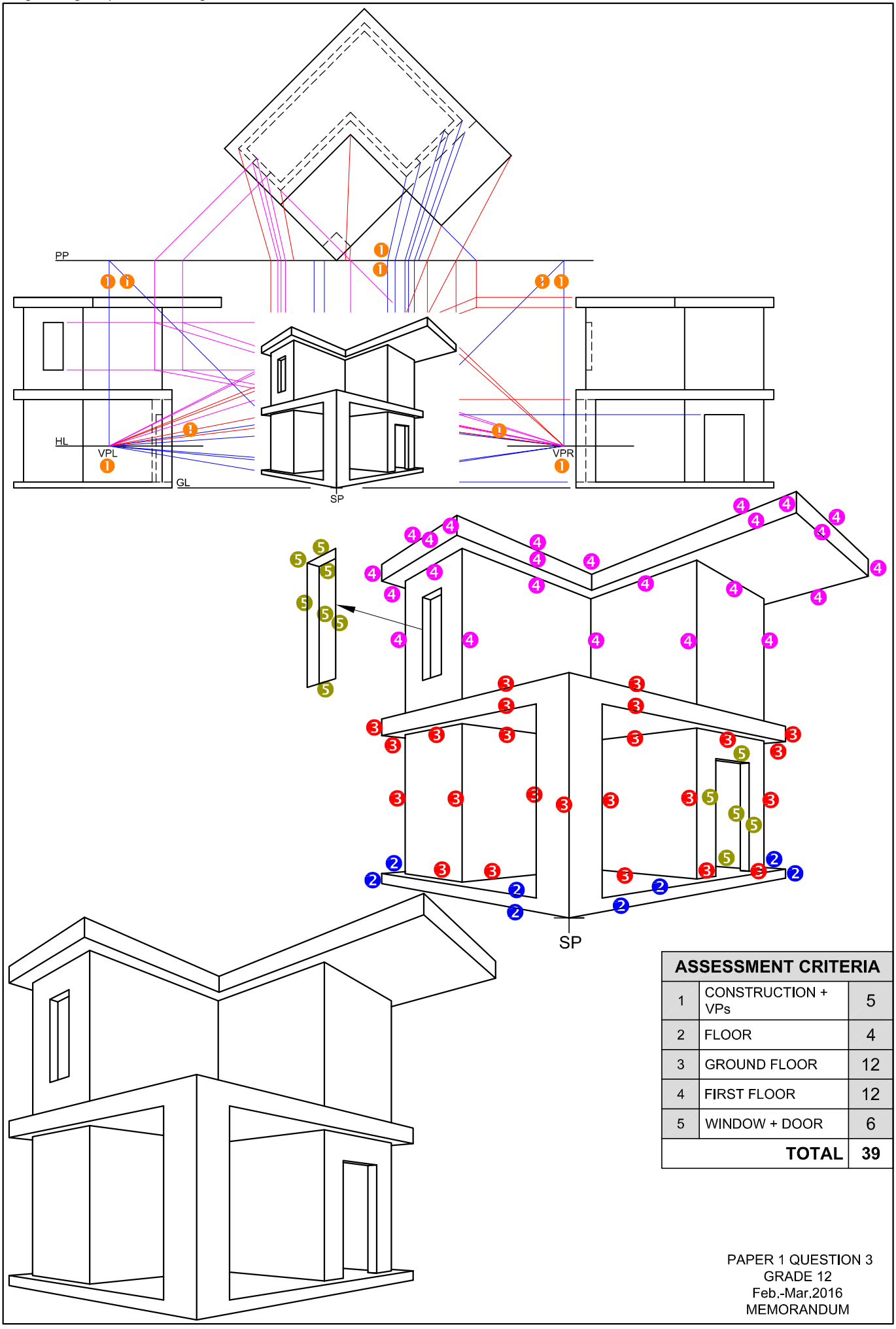

ASSESSMENT CRITERIA		
1	CONSTRUCTION + VPs	5
2	FLOOR	4
3	GROUND FLOOR	12
4	FIRST FLOOR	12
5	WINDOW + DOOR	6
	TOTAL	**39**

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

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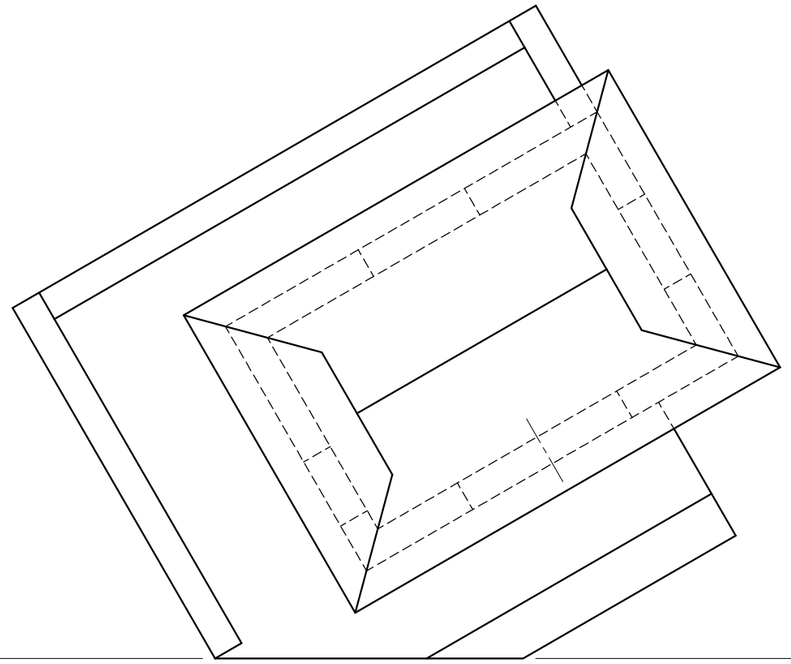
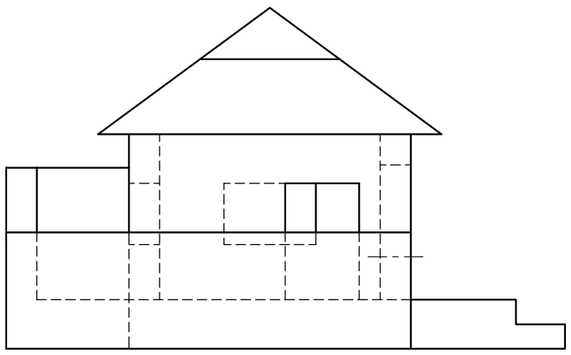
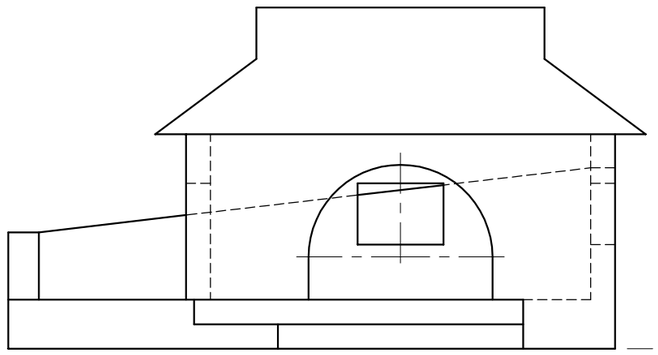


PP PP

HL HL



GL



SP

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]**

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

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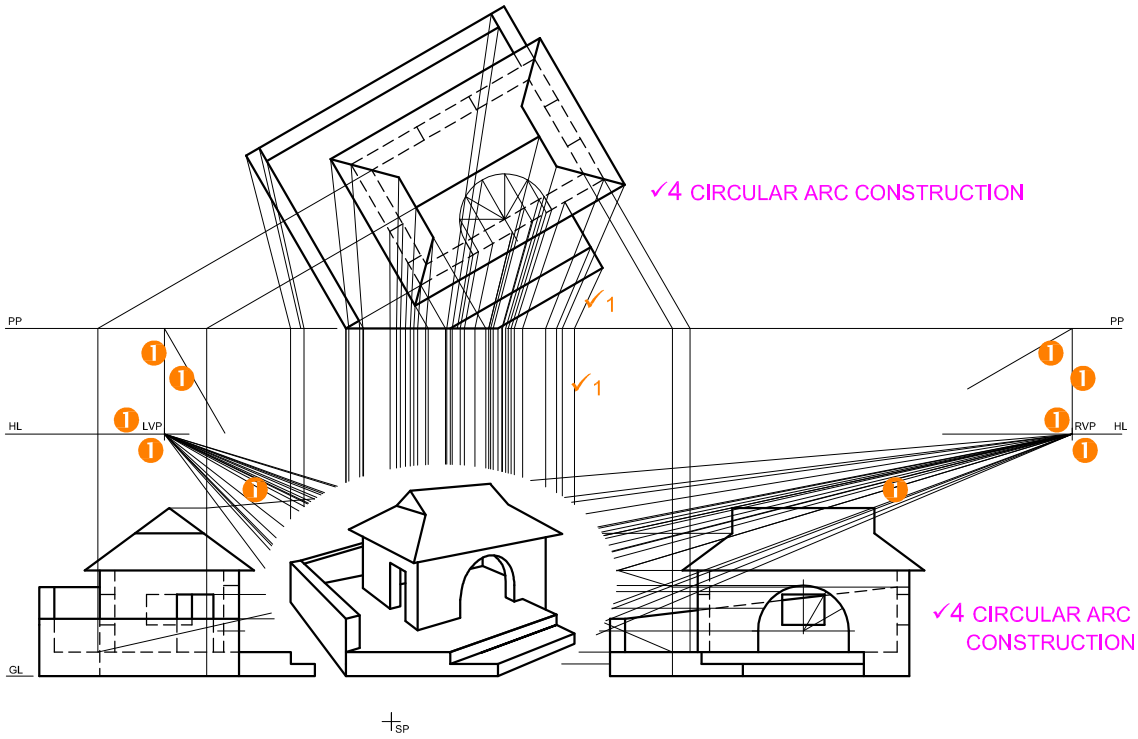
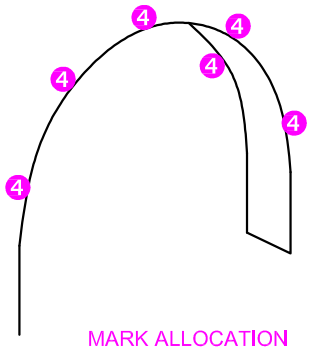
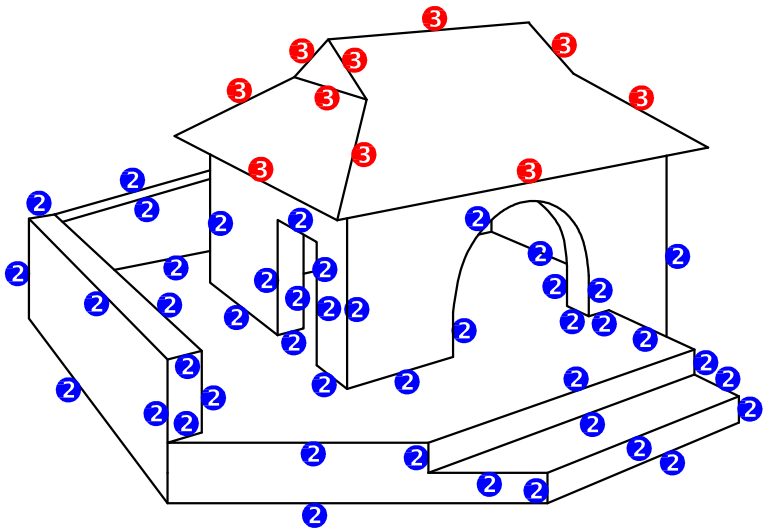
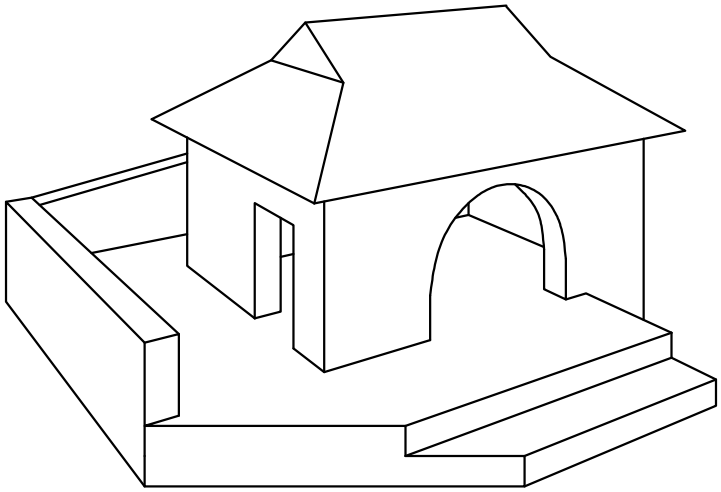


✓4 CURVE QUALITY



MARK ALLOCATION FOR THE CIRCULAR ARC





PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2016
MEMORANDUM

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

SP

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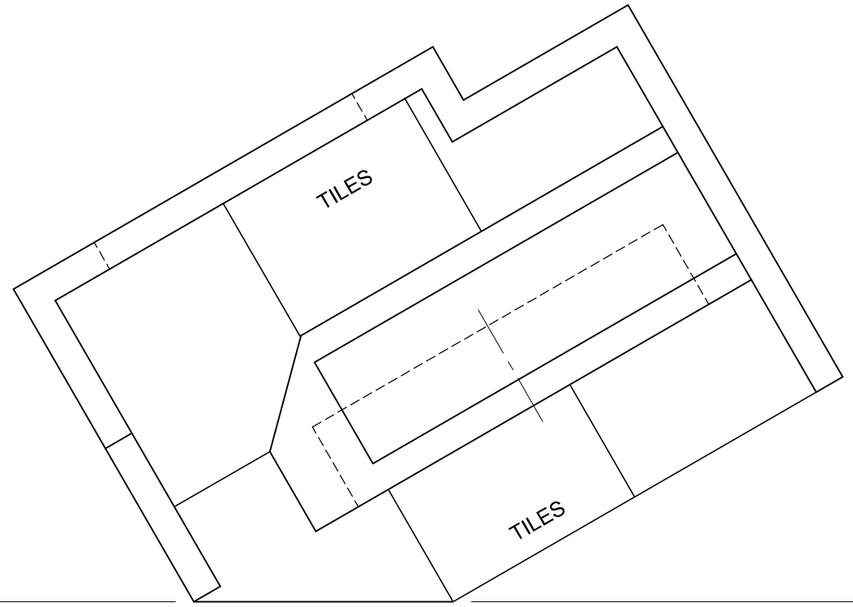
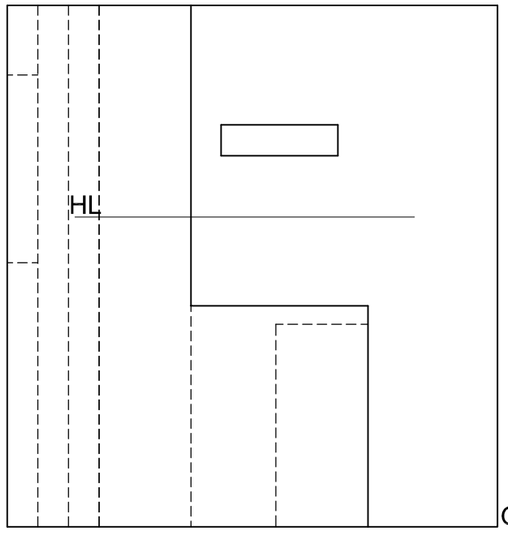


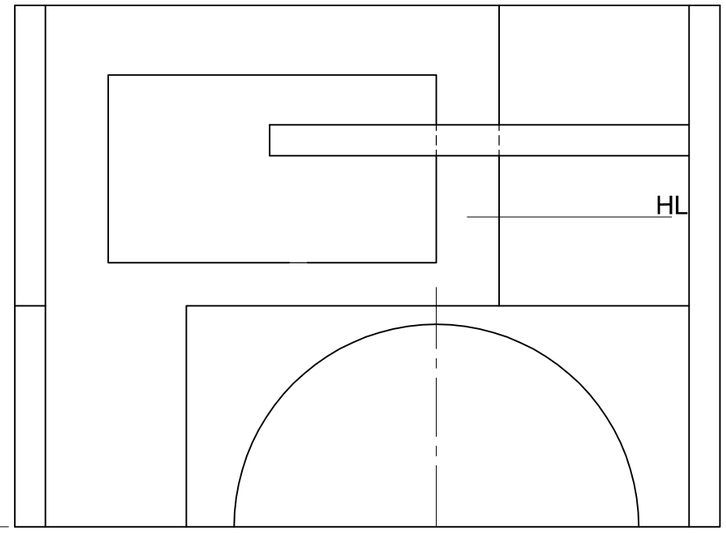
QUESTION 3: PERSPECTIVE

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]**





SP

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

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BASIC-EDUCATION

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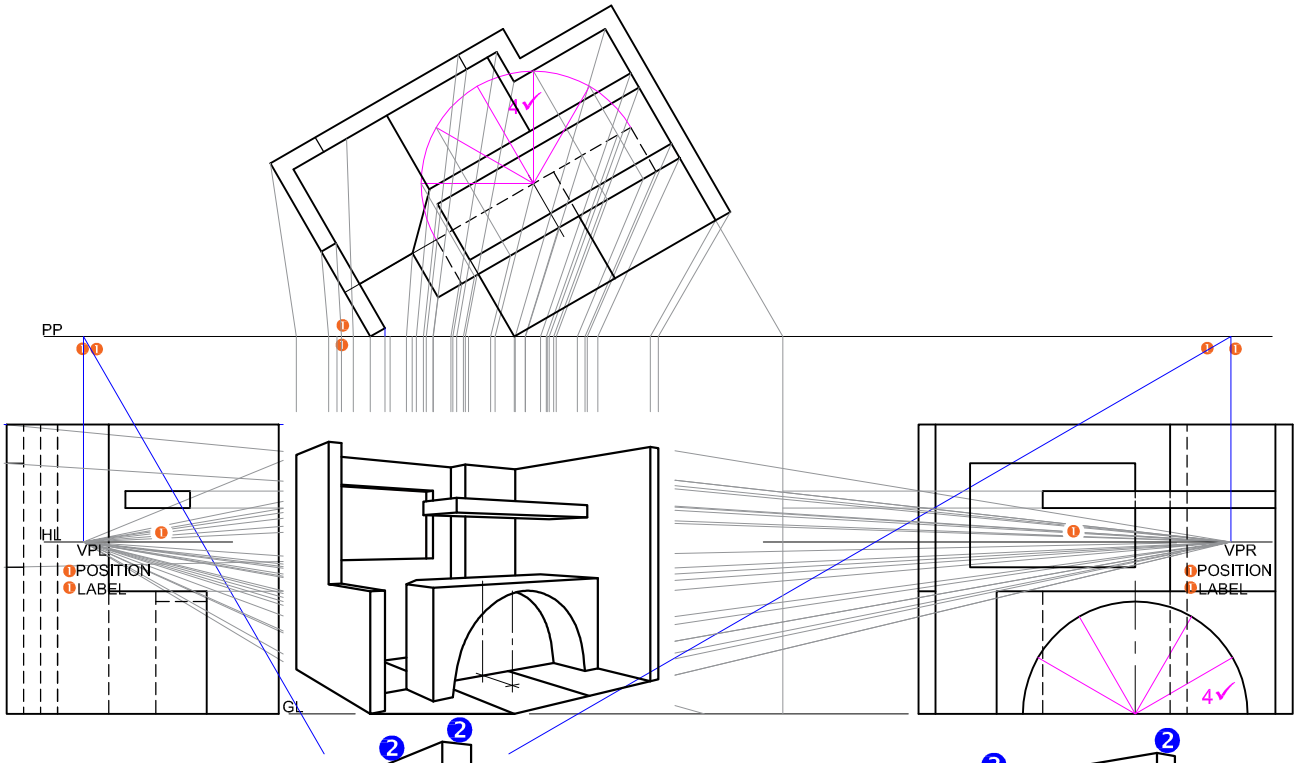

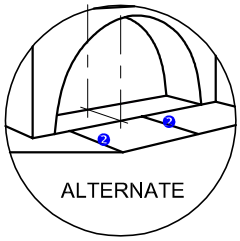

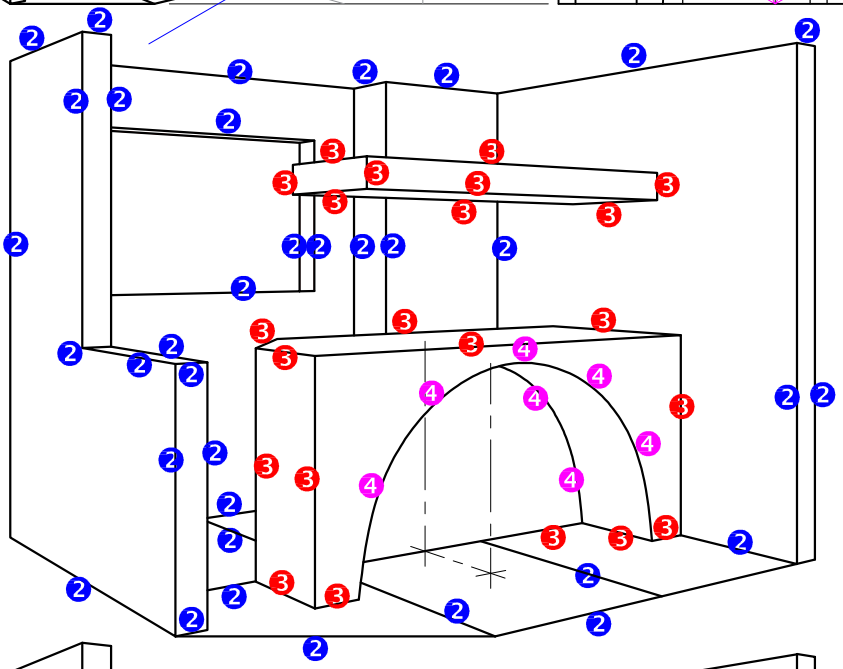

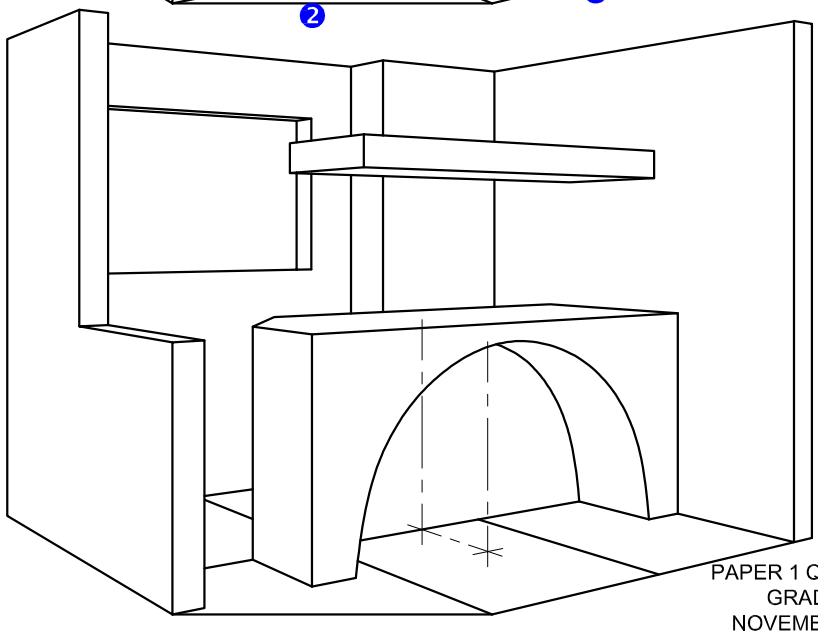

ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALLS AND WINDOW	17½
3	COUNTER	11
4	SEMICIRCLE	5½
	TOTAL	**40**

PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES

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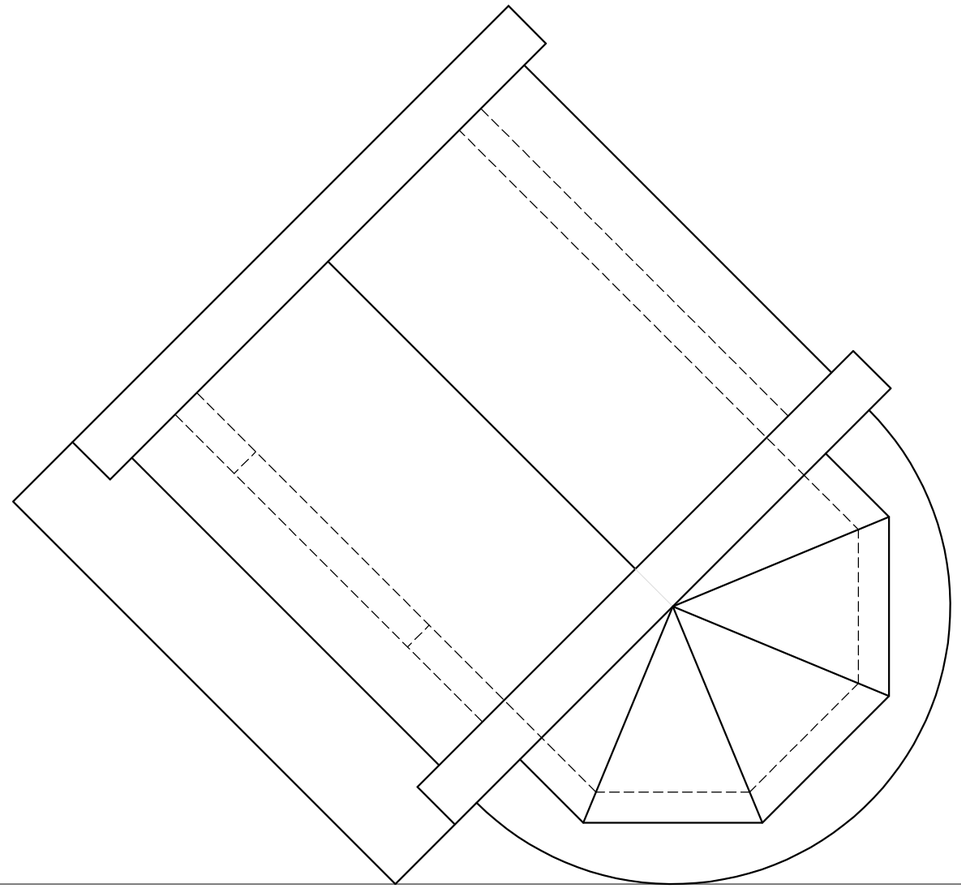


PP

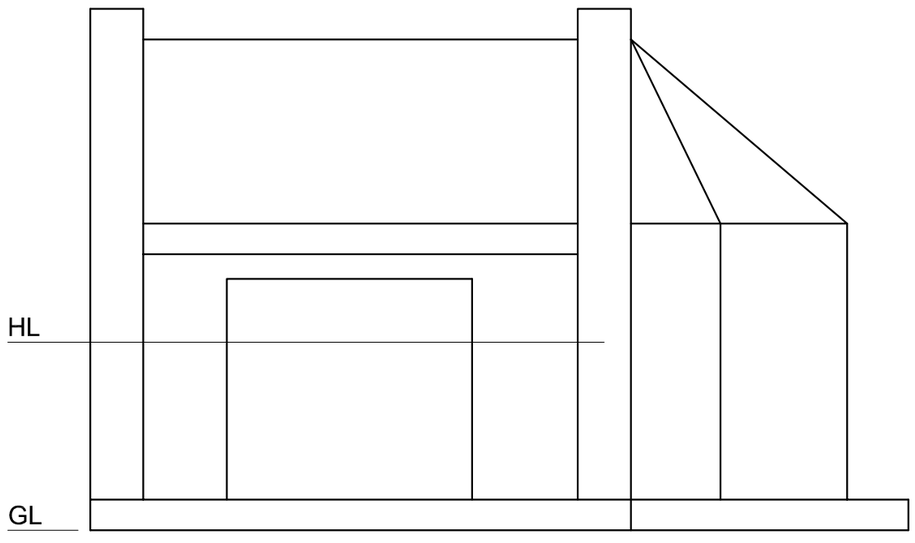
QUESTION 3: PERSPECTIVE

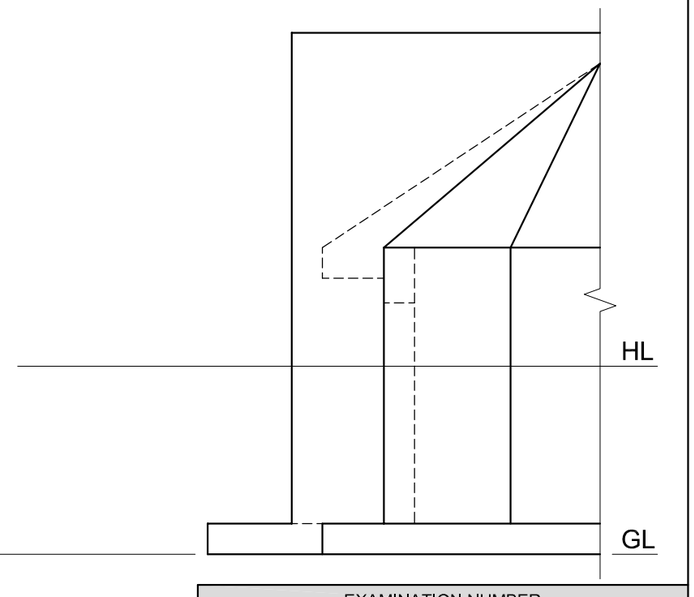
Given:
Two complete views and a partial view of a function hall and the information needed to draw a two-point perspective drawing
PP – Picture plane
HL – Horizon line
GL – Ground line
SP – Station point

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 ½			
3	INNER STRUCTURE	8			
4	SIDE STRUCTURE	7			
5	ARCS	6 ½			
PENALTIES (-)					
	TOTAL	**37**			





SP

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EXAMINATION NUMBER	4

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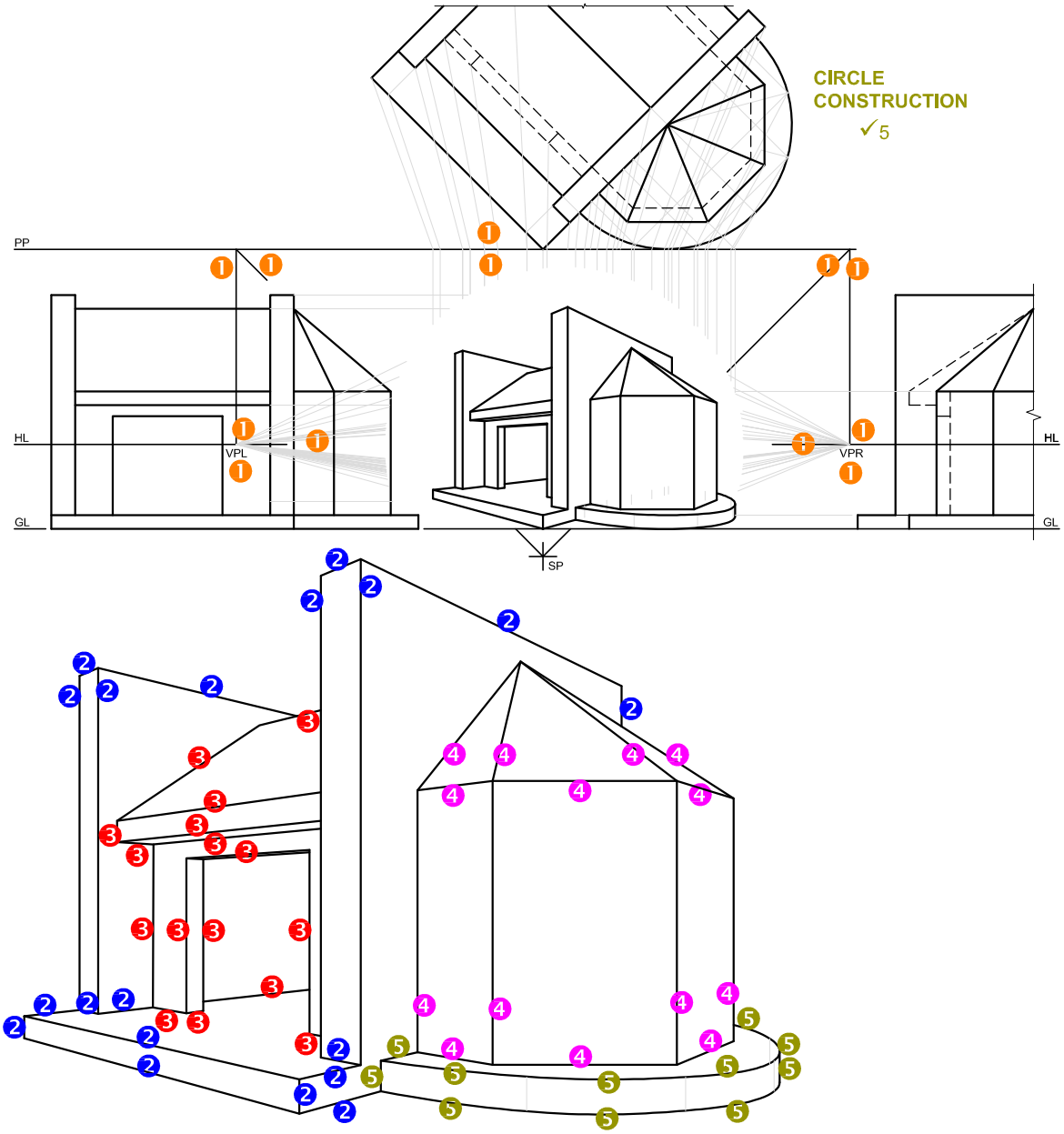

ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	OUTER STRUCTURE	9 ½
3	INNER STRUCTURE	8
4	SIDE STRUCTURE	7
5	ARCS	6 ½
PENALTIES (-)		
	TOTAL	**37**

SP

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GRADE 12
NOVEMBER 2018
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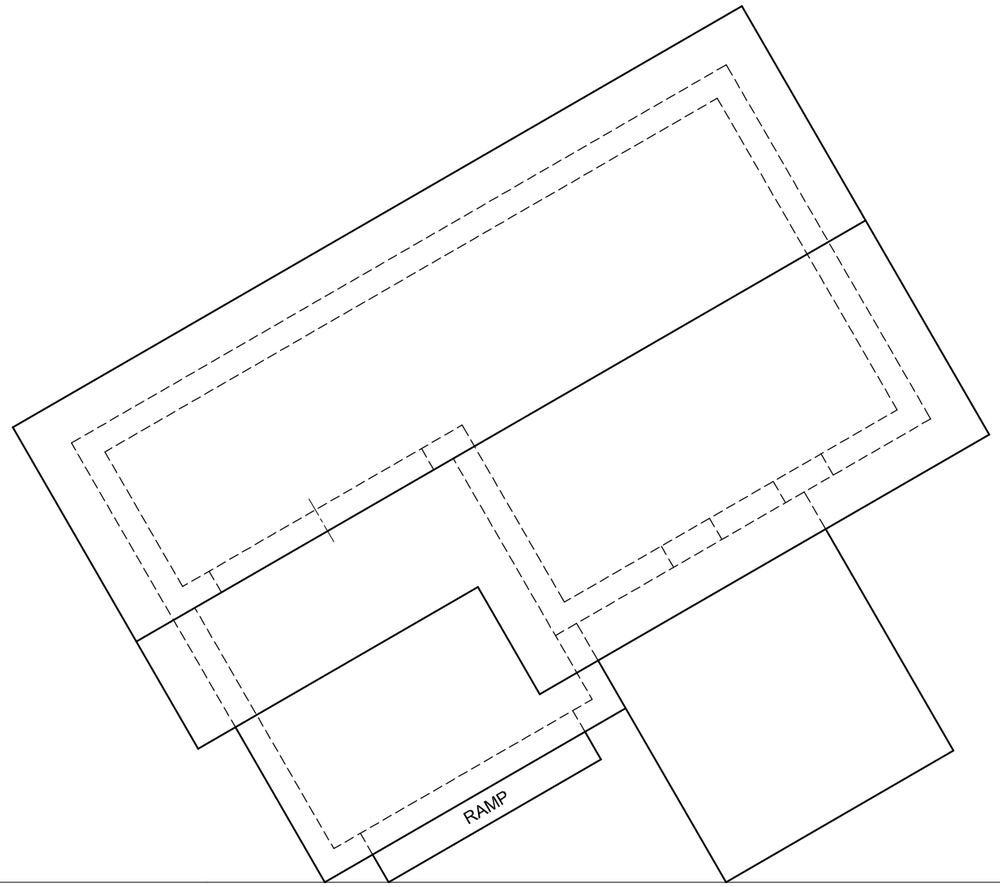
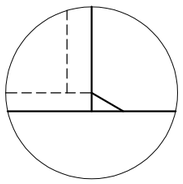




DETAIL OF RAMP

PP

HL

GL

SP

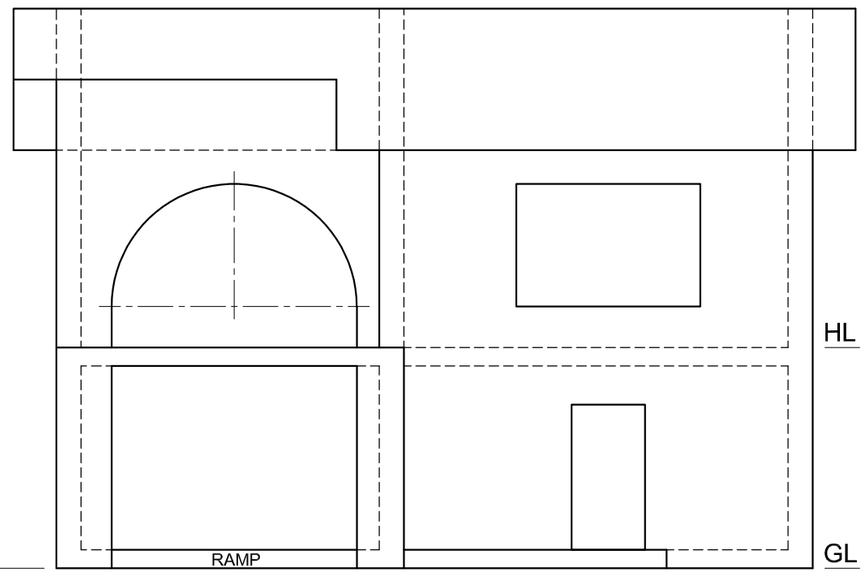
QUESTION 3: PERSPECTIVE

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 $\frac{1}{2}$			
4	ROOF	4 $\frac{1}{2}$			
5	ARCS	7			
PENALTIES (-)					
	TOTAL	**39**			



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EXAMINATION NUMBER	4

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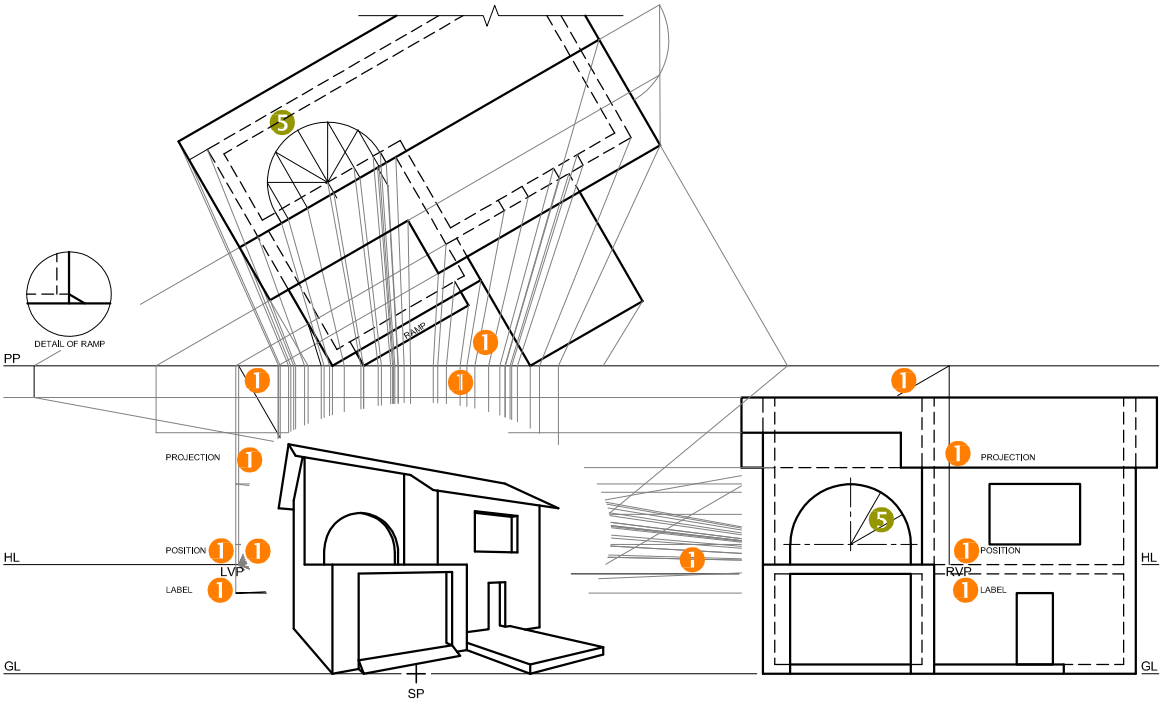

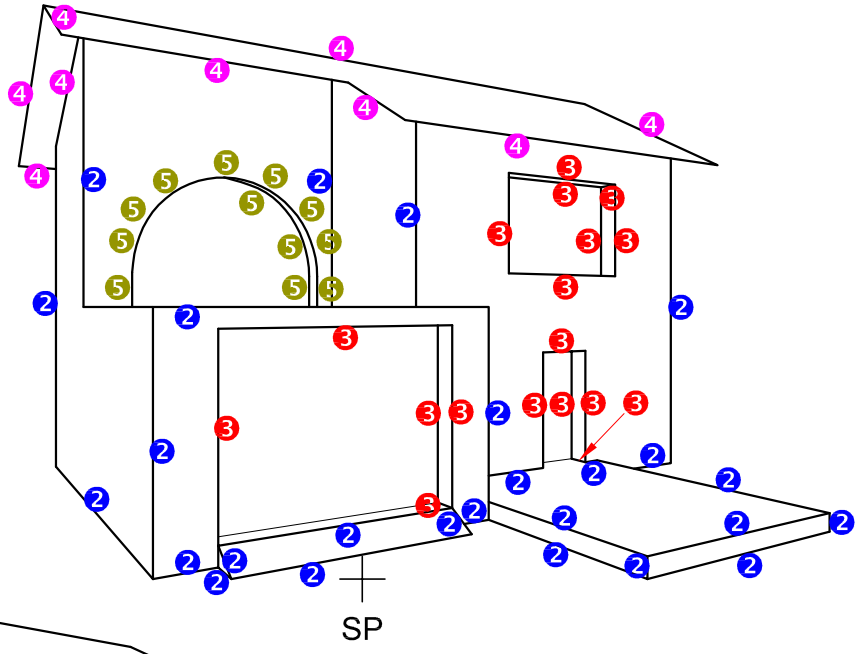

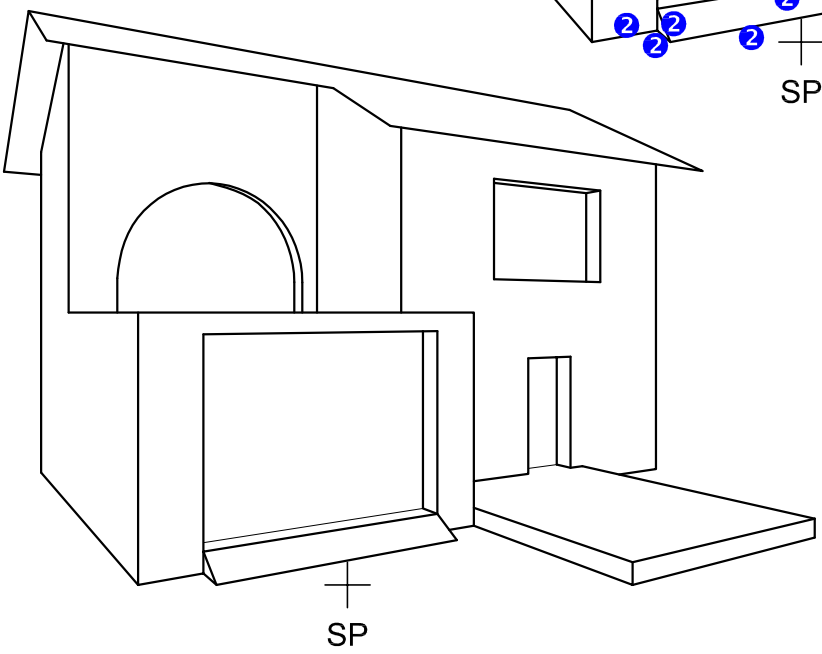

ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	WALLS	13
3	DOORS + WINDOWS	8 $\frac{1}{2}$
4	ROOF	4 $\frac{1}{2}$
5	ARCS	7
	TOTAL	**39**

PAPER 1 QUESTION 3
GRADE 12
NOVEMBER 2019
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GRADE 12 NSC

PAST QUESTIONS ON

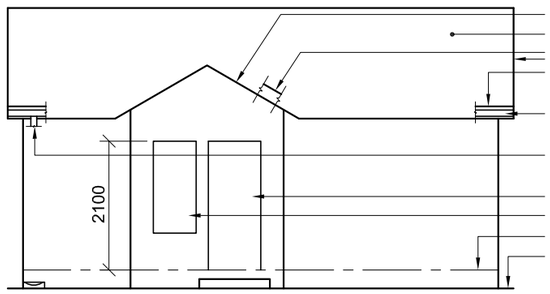
CIVIL DRAWING

PAPER 1

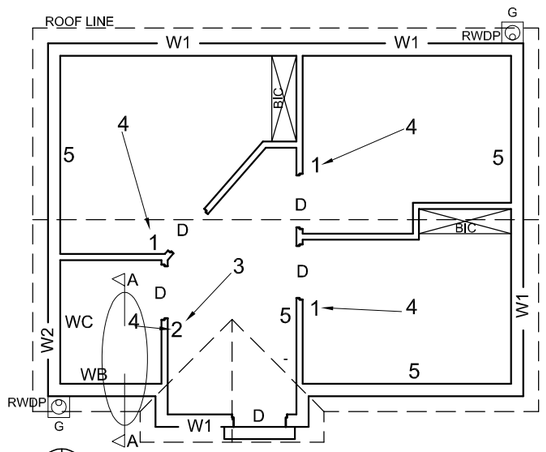
WITH

MARKING GUIDELINES

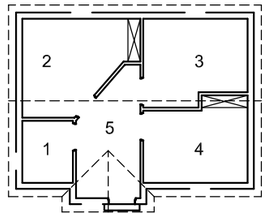
EC LEARNERS



INCOMPLETE NORTH ELEVATION



INCOMPLETE FLOOR PLAN



ROOM DESIGNATIONS

FLOOR FINISHES

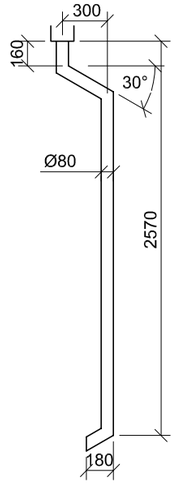
1 TOILET:	TILE
2 ROOM 1:	CARPET
3 ROOM 2:	CARPET
4 ROOM 3:	CARPET
5 RECEPTION:	TILE

FEATURES
D DOOR
W1 WINDOW
W2 WINDOW

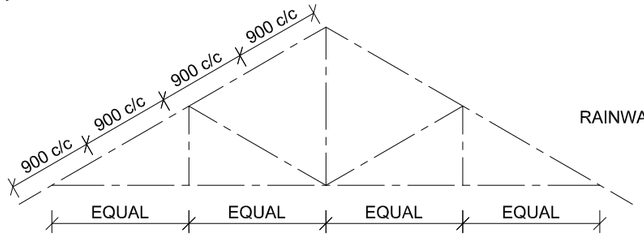
FIXTURES
WC TOILET
WB WASH BASIN

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

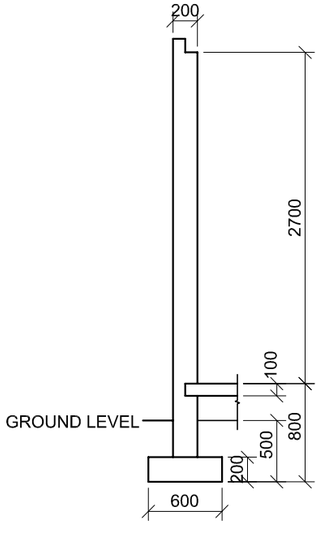
NOTE:
THE ARROW SHOWS THE LIGHT CONNECTION TO THE SWITCH.



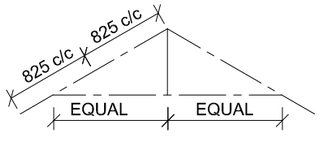
RAINWATER DOWN-PIPE DETAIL



SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR ROOF '2'



INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL



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

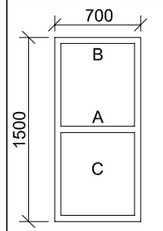
ROOF COVER 15 mm FIBRE CEMENT SHEETING ON 75 x 50 mm PURLINS SPACED ACCORDING TO SCHEMATIC DIAGRAMS

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

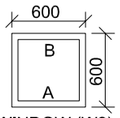
9 mm CEILING BOARD ON 38 x 38 mm BRANDERING STRIPS @ 600 mm c/c

100 x 150 mm GUTTER ON ALL SIDES

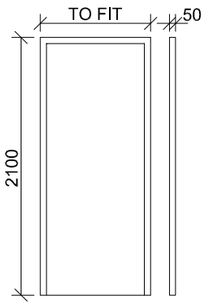
WINDOW AND DOOR SCHEDULE



WINDOW (W1)



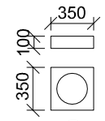
WINDOW (W2)



DOOR FRAME AND DOOR (D)

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

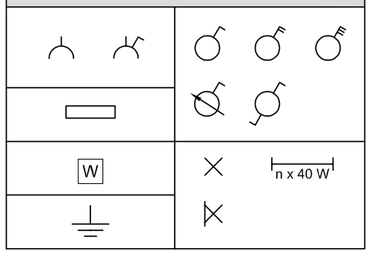
GULLEY



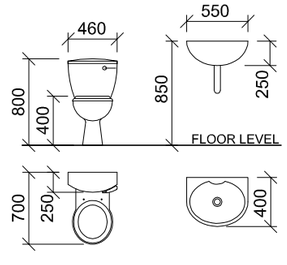
ROOF COMPONENTS

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

ELECTRICAL SYMBOLS



FIXTURES



TOILET (WC) WASH BASIN (WB)

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]**

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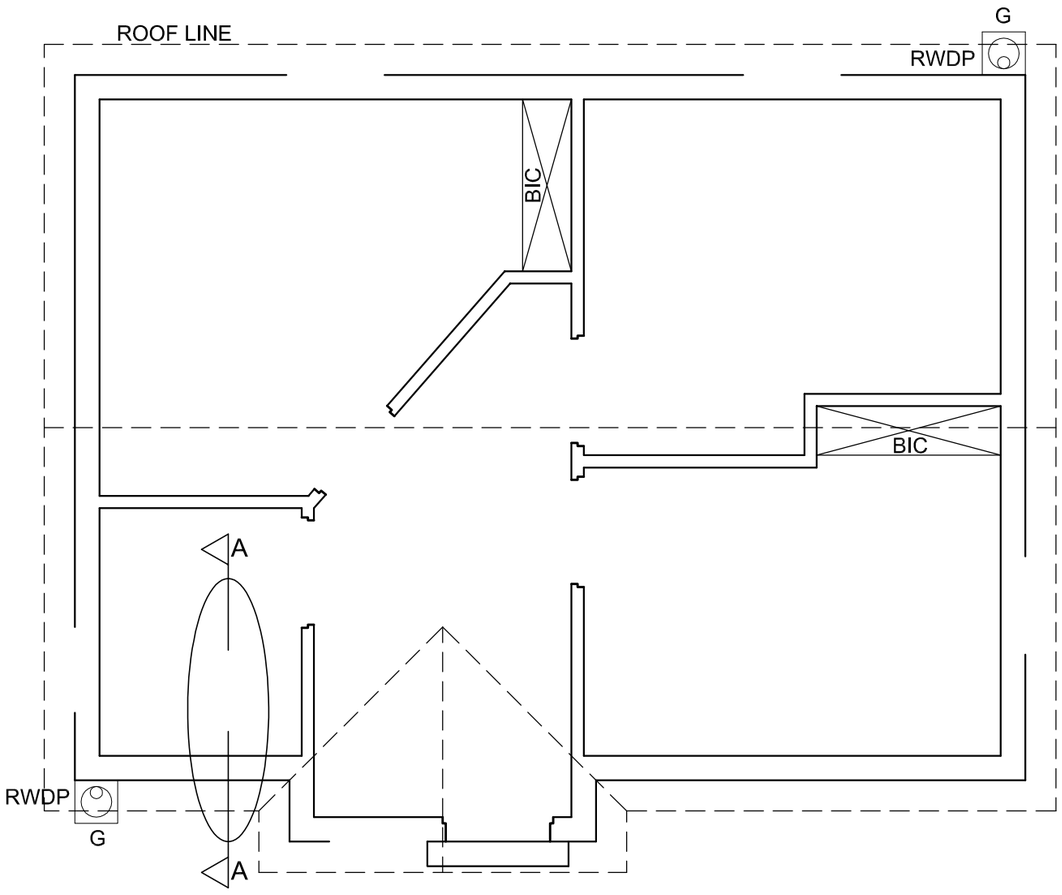
STAPLE



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	MODERATE
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					
EXAMINATION NUMBER					6

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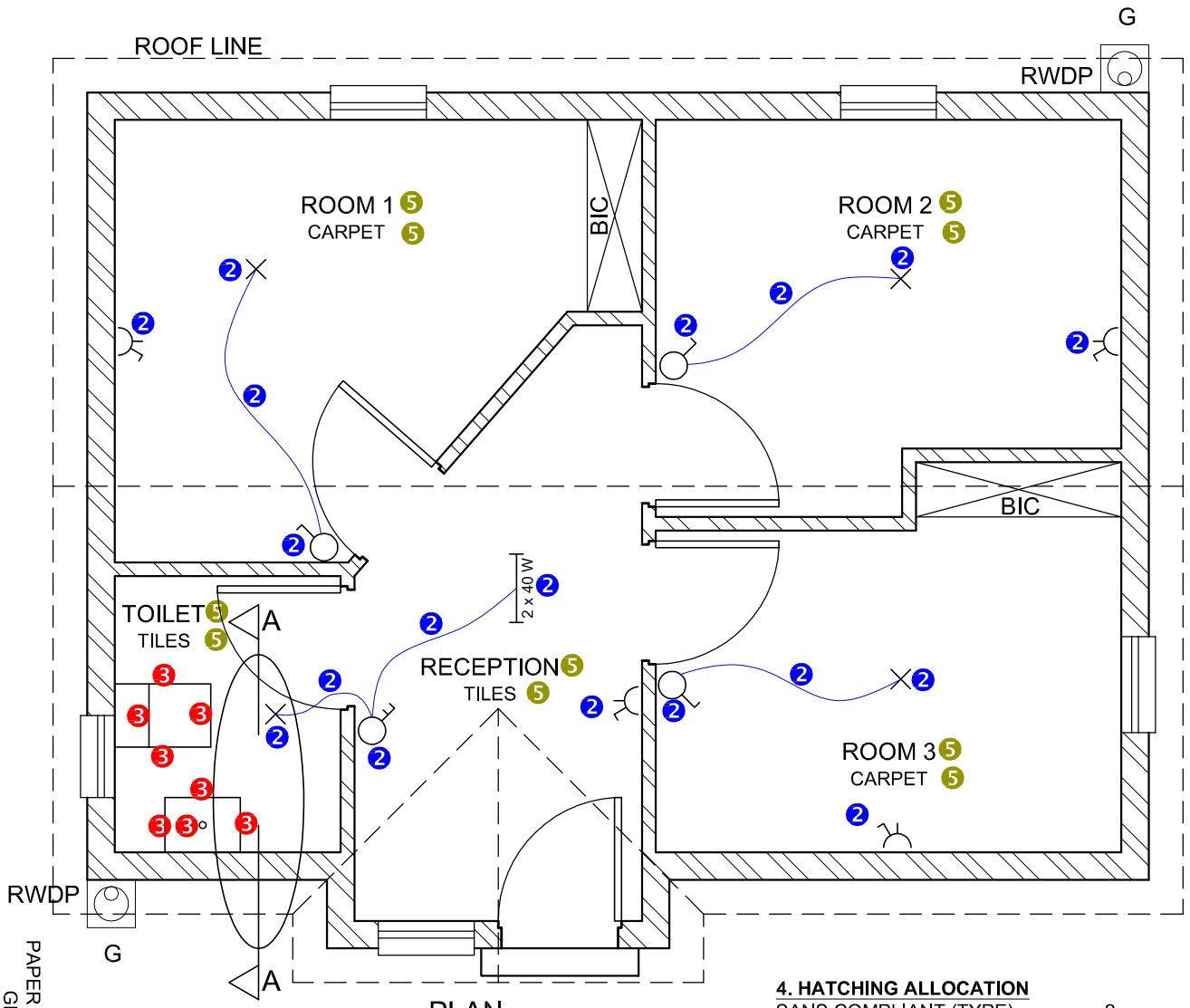
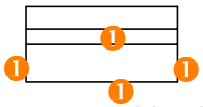


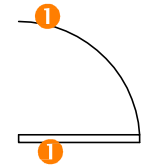
PLAN
SCALE 1 : 50

4. HATCHING ALLOCATION

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



DETAIL OF MARK ALLOCATION FOR A WINDOW (2 x 5 windows = 10)



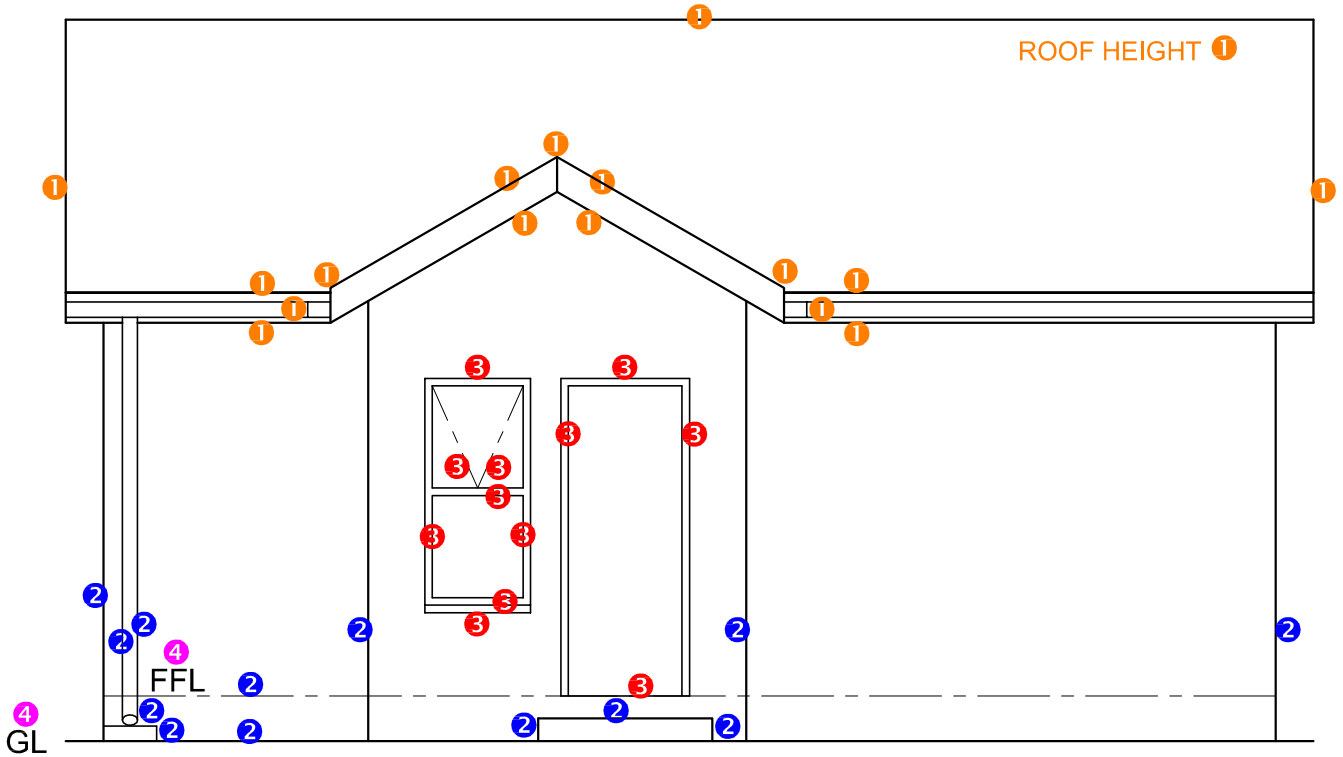
DETAIL OF MARK ALLOCATION FOR A DOOR (1 x 5 doors = 5)

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

PAPER 1 QUESTION 4
GRADE 12
November 2015
MEMORANDUM

Please turn over



NORTH ELEVATION 4

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

PAPER 1 QUESTION 4
GRADE 12
November 2015
MEMORANDUM

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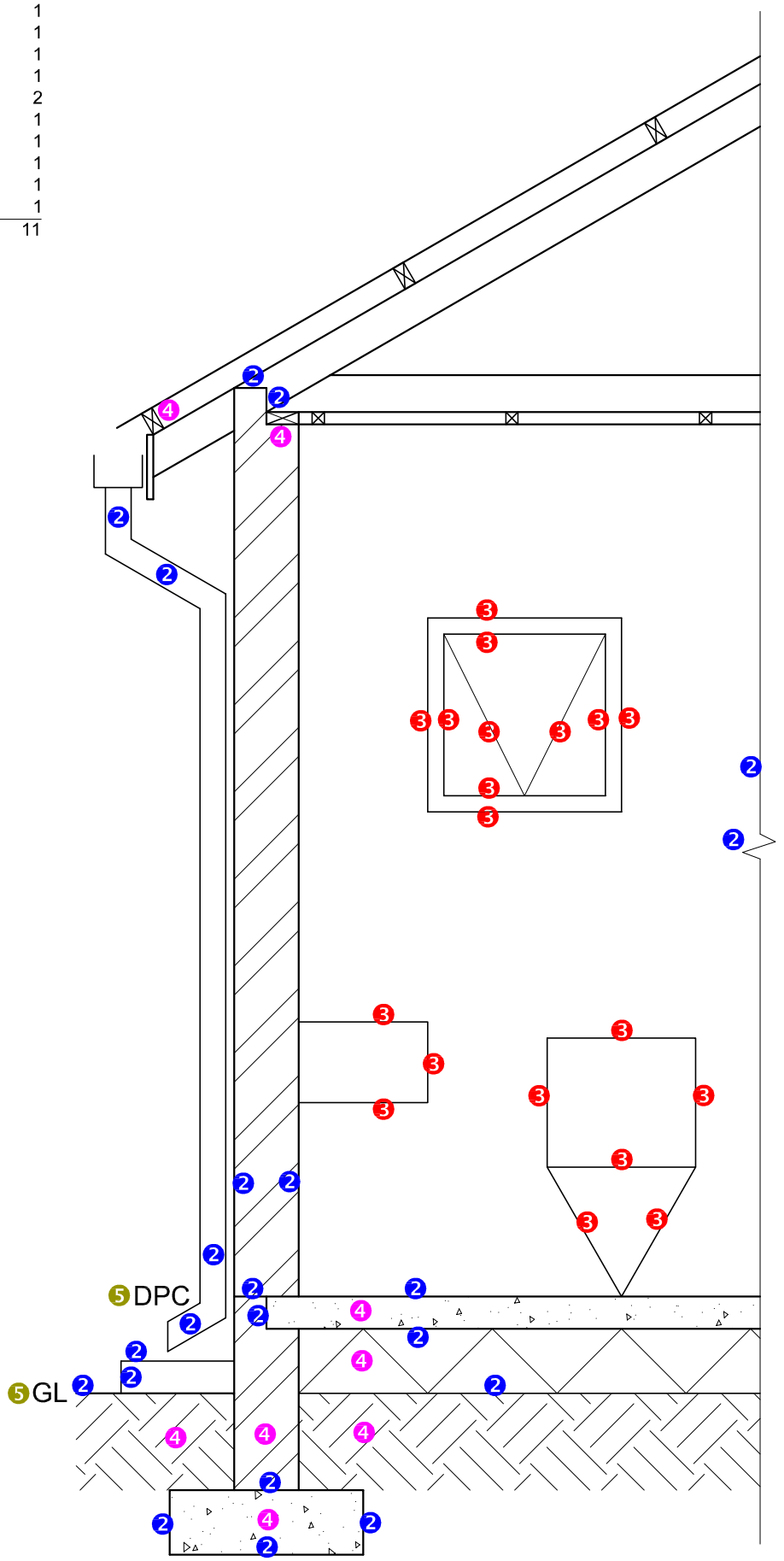
1. MARK ALLOCATION FOR ROOF

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: BRANDERING	1
I: CEILING BOARD	1
J: GUTTER	1
TOTAL	11



DETAILED SECTION
SCALE 1 : 20

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**

PAPER 1 QUESTION 4
GRADE 12
November 2015
MEMORANDUM

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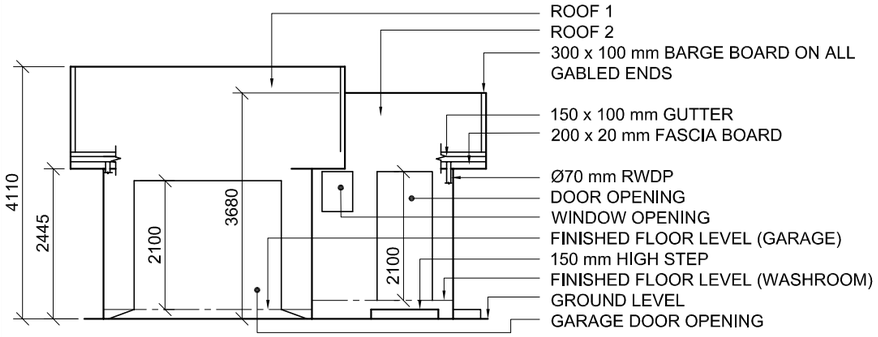
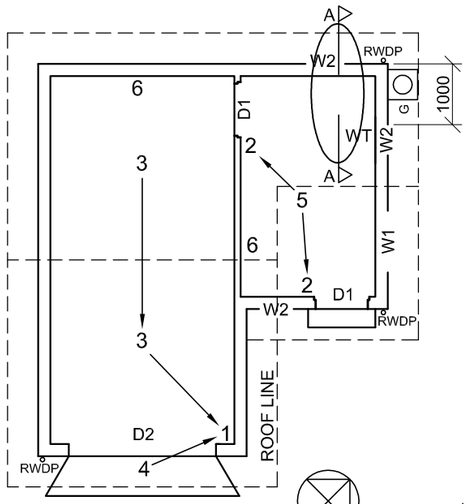


INCOMPLETE SOUTH-EAST ELEVATION



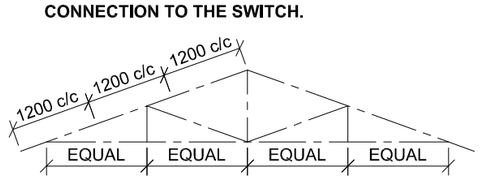
INCOMPLETE FLOOR PLAN

FEATURES
D1 DOOR
D2 GARAGE DOOR
W1 WINDOW
W2 WINDOW

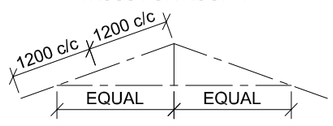
FIXTURE
WT WASHTUB

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

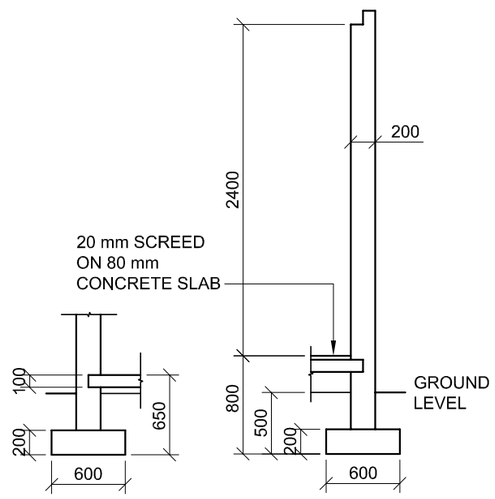
NOTE:
THE ARROW SHOWS THE LIGHT CONNECTION TO THE SWITCH.



SCHEMATIC DIAGRAM OF A TRUSS FOR ROOF '1'



SCHEMATIC DIAGRAM OF A TRUSS FOR ROOF '2'



INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL OF THE GARAGE

INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL OF THE WASHROOM

ROOF NOTES:
ROOF PITCH 20°

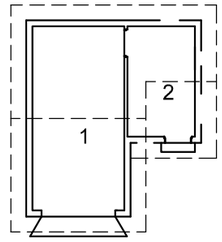
200 x 20 mm FASCIA BOARD ON ALL SIDES AND 300 x 20 mm BARGE BOARD ON THE GABLED ENDS

ROOF COVER 15 mm FIBRE CEMENT SHEETING ON 75 x 50 mm PURLINS SPACED ACCORDING TO SCHEMATIC DIAGRAMS

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

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

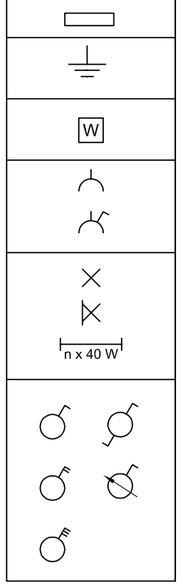
100 x 150 mm GUTTER ON ALL SIDES



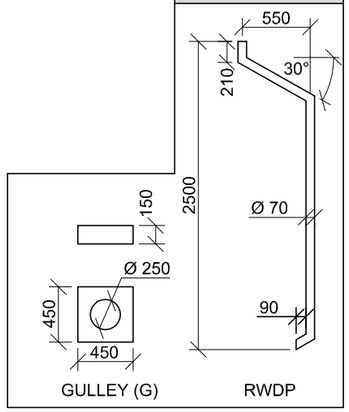
ROOM DESIGNATIONS

FLOOR FINISHES
1 GARAGE: GRANO
2 WASHROOM: TILE

ELECTRICAL SYMBOLS

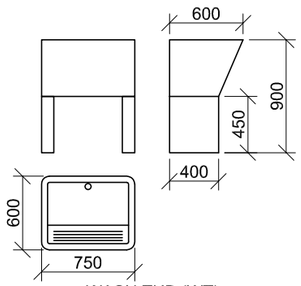


RAINWATER ITEMS



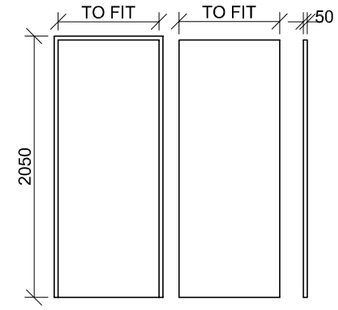
GULLEY (G) RWDP

FIXTURE

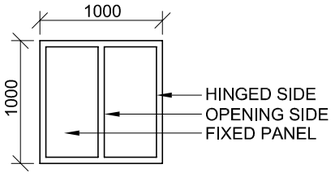


WASH TUB (WT)

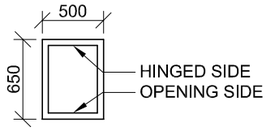
DOOR AND WINDOW SCHEDULE



DOOR FRAME DOOR (D1)

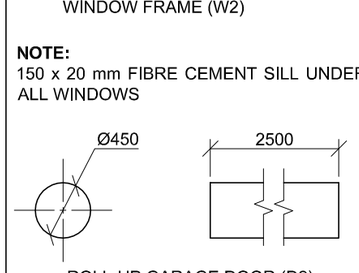


WINDOW FRAME (W1)



WINDOW FRAME (W2)

NOTE:
150 x 20 mm FIBRE CEMENT SILL UNDER ALL WINDOWS



ROLL-UP GARAGE DOOR (D2)

ROOF COMPONENTS

300	ROOF CAP
	WALL PLATE
	75 x 50 mm PURLIN
	150 x 100 mm GUTTER
	300 x 100 mm FIBRE CEMENT BARGE BOARD
	200 x 20 mm FASCIA BOARD

QUESTION 4: CIVIL DRAWING

Given:

- The incomplete south-east elevation of a **new garage and washroom** showing the walls, the garage door opening, the door and window openings, the roof and notes
- The incomplete floor plan showing the walls, position of the doors, windows, fixture and the electrical layout
- The incomplete foundation and external wall detail of the garage and of the washroom
- Room designations and floor finishes
- Schematic diagrams of the TWO types of roof trusses and roof notes
- A table of electrical symbols
- A table of rainwater items
- A table of the fixture
- A door and window schedule
- A table of roof components
- The incomplete floor plan of the **new garage and washroom**, 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 garage and washroom**:

4.1.1 **THE COMPLETE FLOOR PLAN**
Add the following features to the drawing:
- ALL doors and windows
- The fixture as indicated by the abbreviation
- ALL electrical fittings as indicated by numbers
- ALL hatching detail

4.1.2 **THE COMPLETE SOUTH-EAST 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 window detail, with a DOUBLE lintel
- The roof detail, including the fascia board and gutter
- ALL features and fixtures to the right of the section
- ALL hatching detail. ONLY the substructure hatching may be drawn in neat freehand.

Label the following:
- The south-east elevation
- The room designations and floor finishes
- Using the correct abbreviations, label the following features in the correct view: ground level, finished floor level and damp-proof course.

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

[91]

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BASIC-EDUCATION

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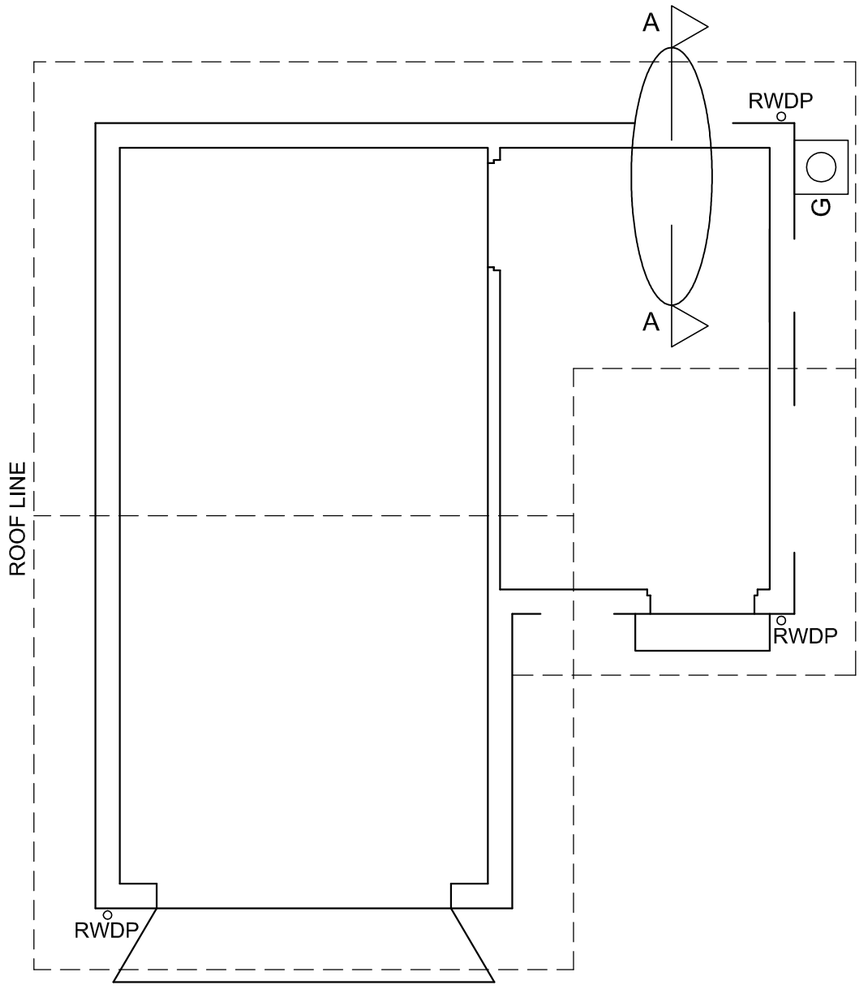

FLOOR PLAN
SCALE 1 : 50

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 (-)		

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

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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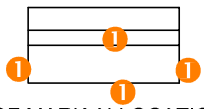
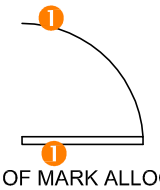
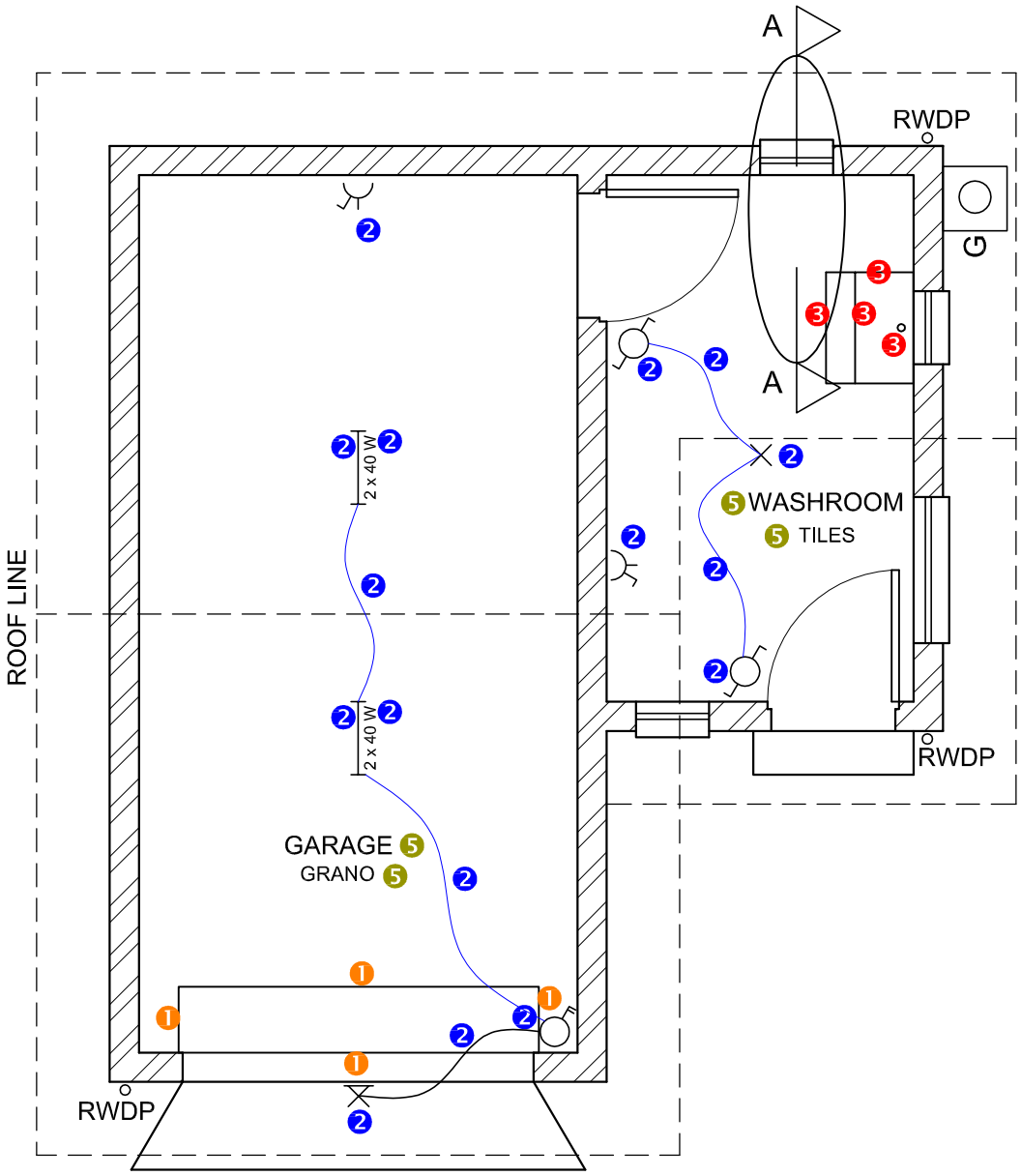


DETAIL OF MARK ALLOCATION FOR A WINDOW (2 x 4 windows = 8)



DETAIL OF MARK ALLOCATION FOR A DOOR (1 x 2 doors = 2)



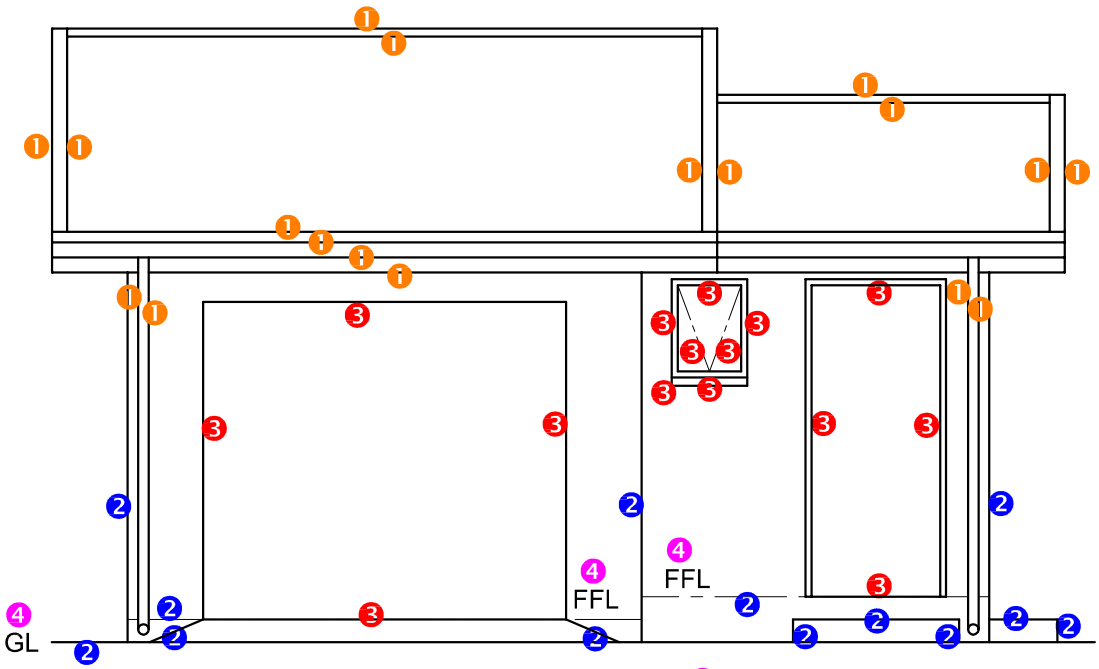
FLOOR PLAN
SCALE 1 : 50

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

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



SOUTH EAST ELEVATION 4

ASSESSMENT CRITERIA		
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**

PAPER 1 QUESTION 4
GRADE 12
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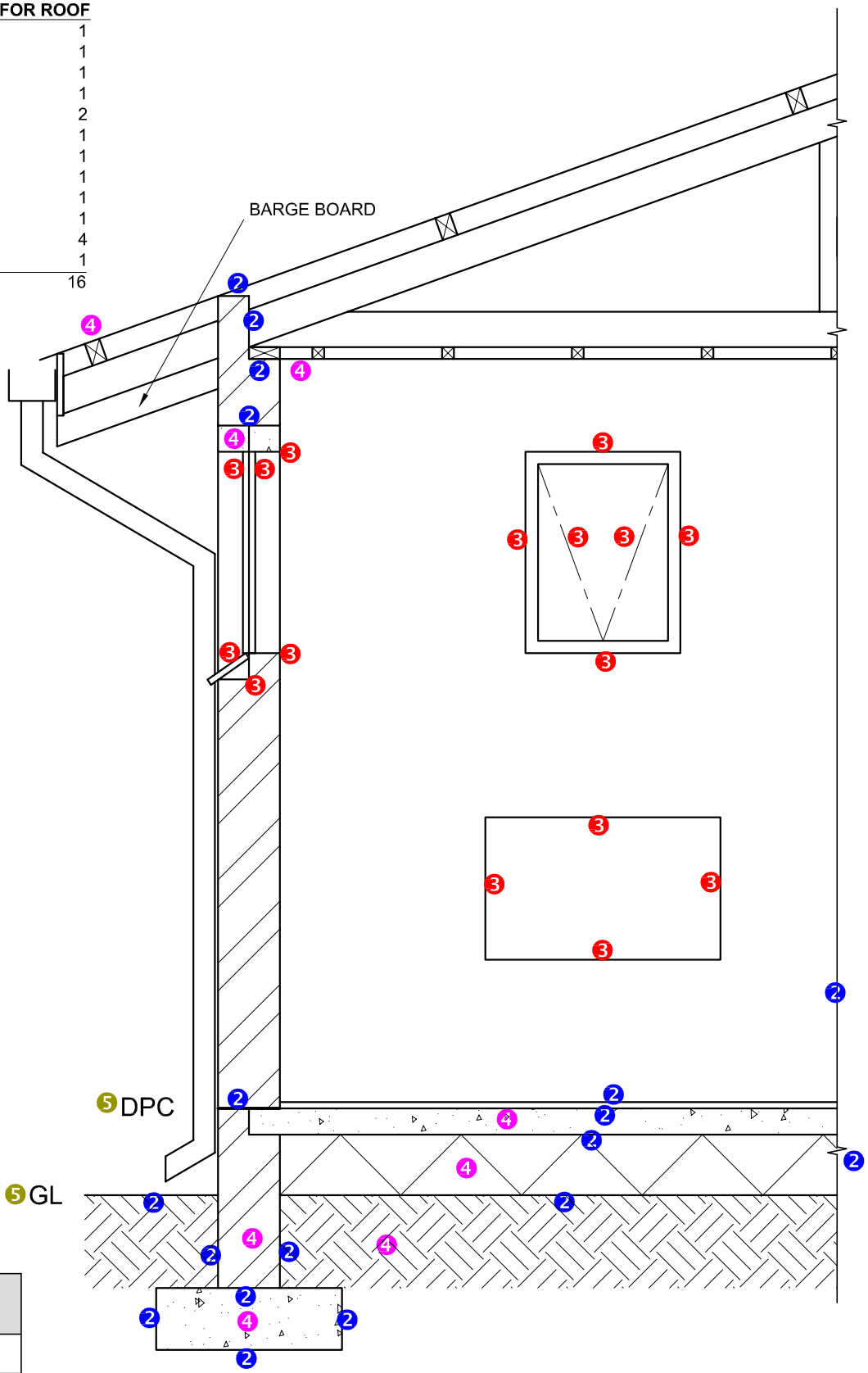
MEMORANDUM

1. MARK ALLOCATION FOR ROOF

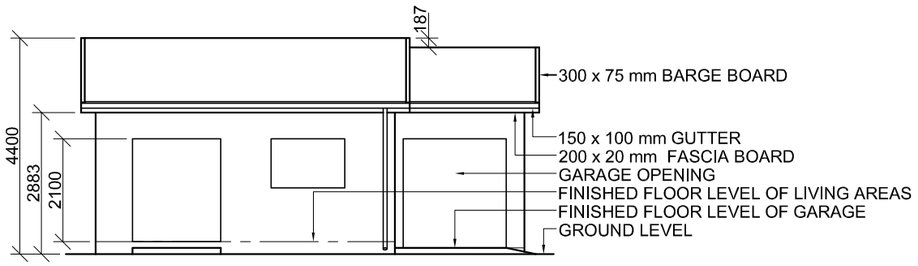
A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLINS	1
D: PURLIN SPACING	1
E: TRUSS	2
F: FASCIA BOARD	1
G: BARGE BOARD	1
H: WALL PLATE	1
I: BRANDERING	1
J: CEILING BOARD	1
K: RWDP	4
L: GUTTER	1
TOTAL	16



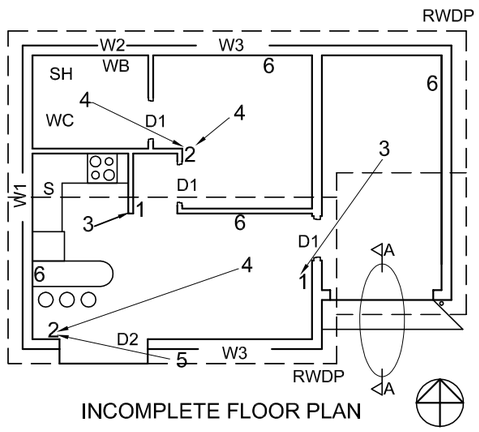
ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF DETAIL + RWDP	16
2	FOUNDATION + WALL + LINE BREAK	9
3	WINDOW + WASHTUB	8
4	HATCHING	4
5	LABELS	1
SUBTOTAL		**38**

DETAILED SECTION ON A-A
SCALE 1 : 20

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



INCOMPLETE SOUTH ELEVATION



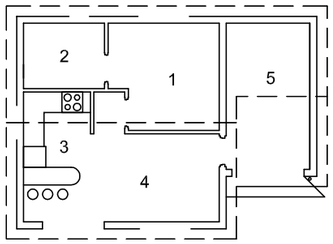
INCOMPLETE FLOOR PLAN

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.

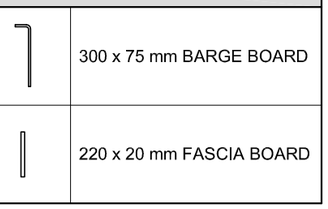


ROOM DESIGNATIONS

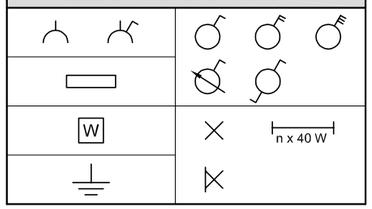
FLOOR FINISHES

1	BEDROOM:	CARPET
2	BATHROOM:	TILE
3	KITCHEN:	TILE
4	LOUNGE/DINING ROOM:	WOOD
5	GARAGE:	GRANO

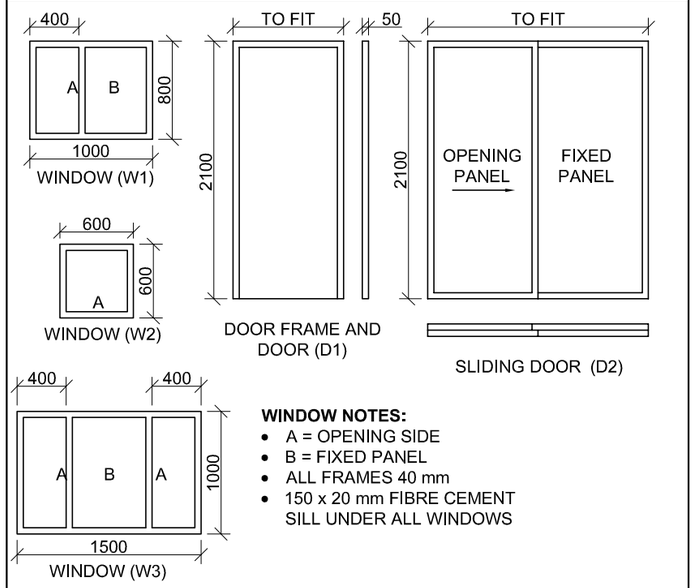
ROOF COMPONENTS



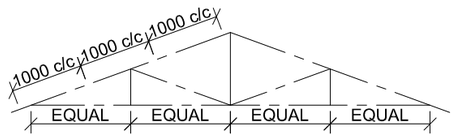
ELECTRICAL SYMBOLS



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



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

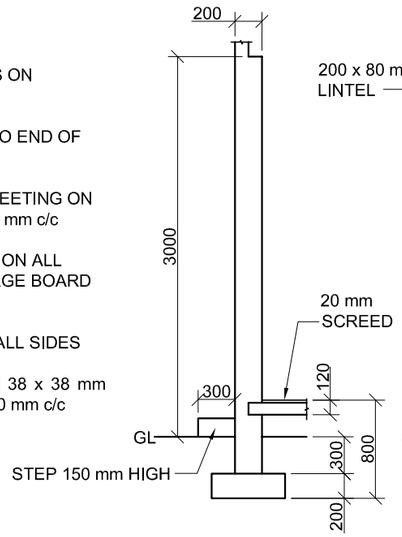
ROOF OVERHANG 300 mm TO END OF ROOF TRUSSES

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

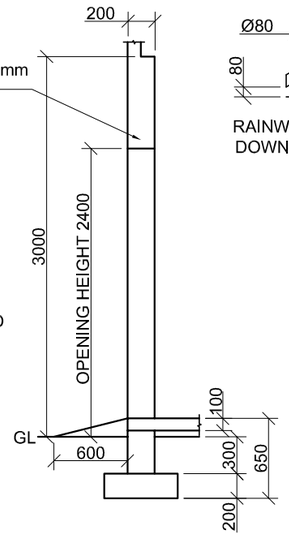
220 x 20 mm FASCIA BOARD ON ALL SIDES AND 300 x 75 mm BARGE BOARD ON GABLED ENDS

100 x 150 mm GUTTERS ON ALL SIDES

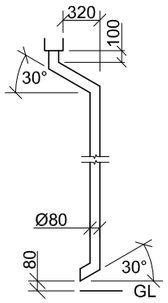
9 mm CEILING BOARDS ON 38 x 38 mm BRANDERING STRIPS @ 300 mm c/c



INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL OF THE LIVING AREAS

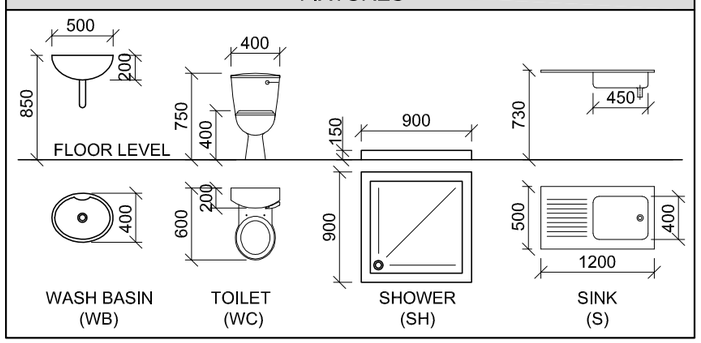


INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL OF THE GARAGE



RAINWATER DOWN-PIPE

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]**

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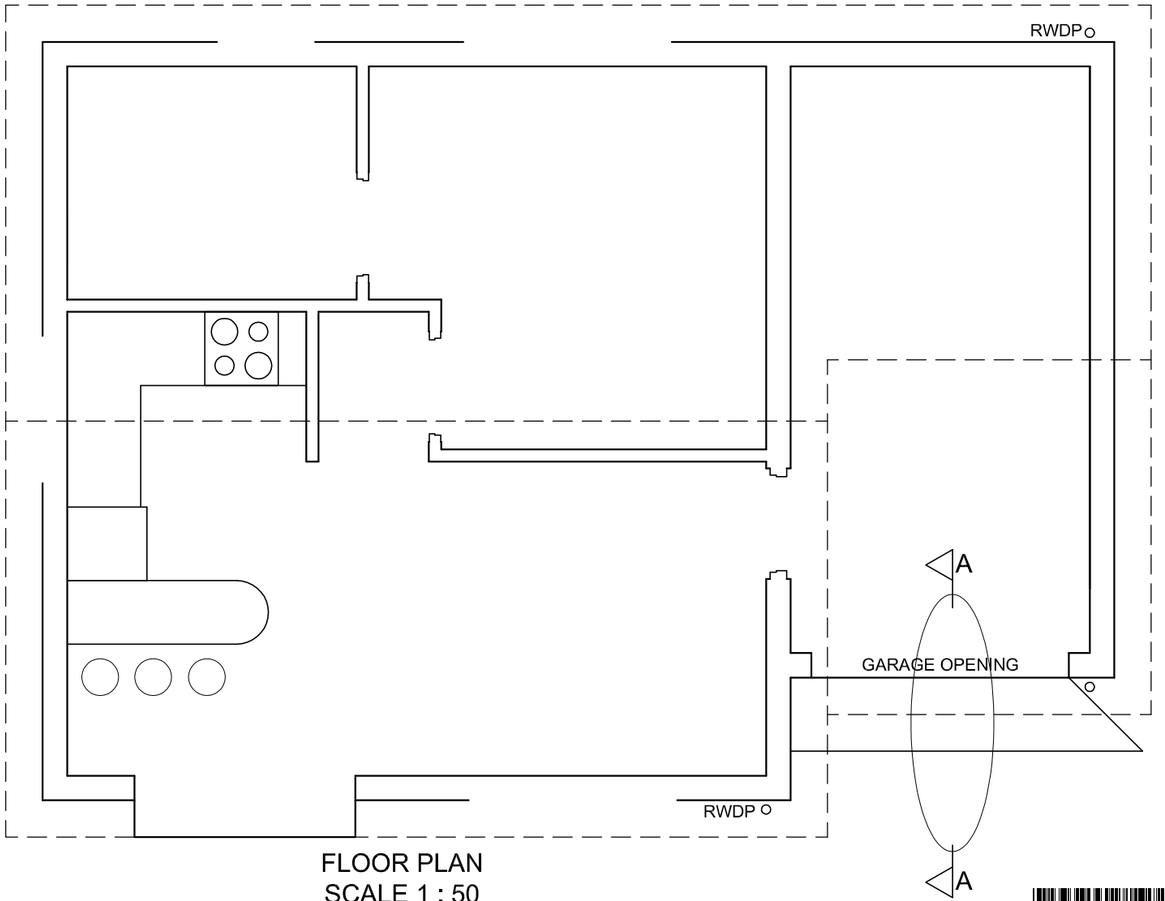
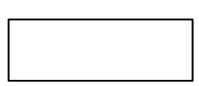


FLOOR PLAN
SCALE 1 : 50



SECTION A-A
SCALE 1 : 20

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

FOR OFFICIAL USE ONLY	
INCORRECT SCALE	
INCORRECT POSITIONING OF VIEWS	
NON-ALIGNMENT OF VIEWS	
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	$5\frac{1}{2}$			
2	WALLS + RWDP + FFL	7			
3	DOOR + WINDOW	10			
4	LABELS	1			
SUBTOTAL		**$23\frac{1}{2}$**			
DETAILED SECTION					
1	ROOF	11			
2	FOUNDATION + WALLS + SLAB	7			
3	GUTTER + RWDP	4			
4	HATCHING	5			
5	LABELS	$\frac{1}{2}$			
SUBTOTAL		**$27\frac{1}{2}$**			
TOTAL		**93**			
PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					6

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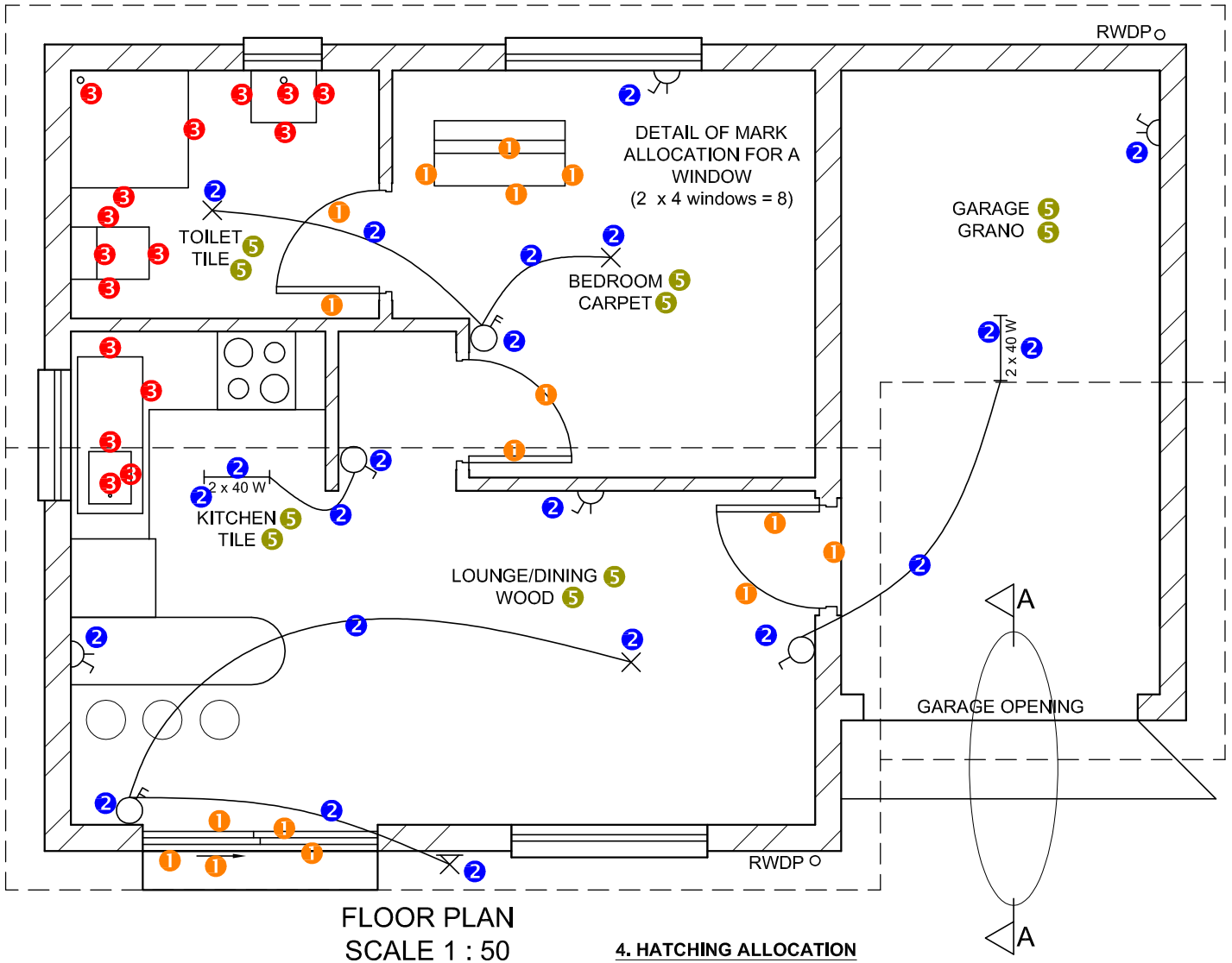


FLOOR PLAN
SCALE 1 : 50

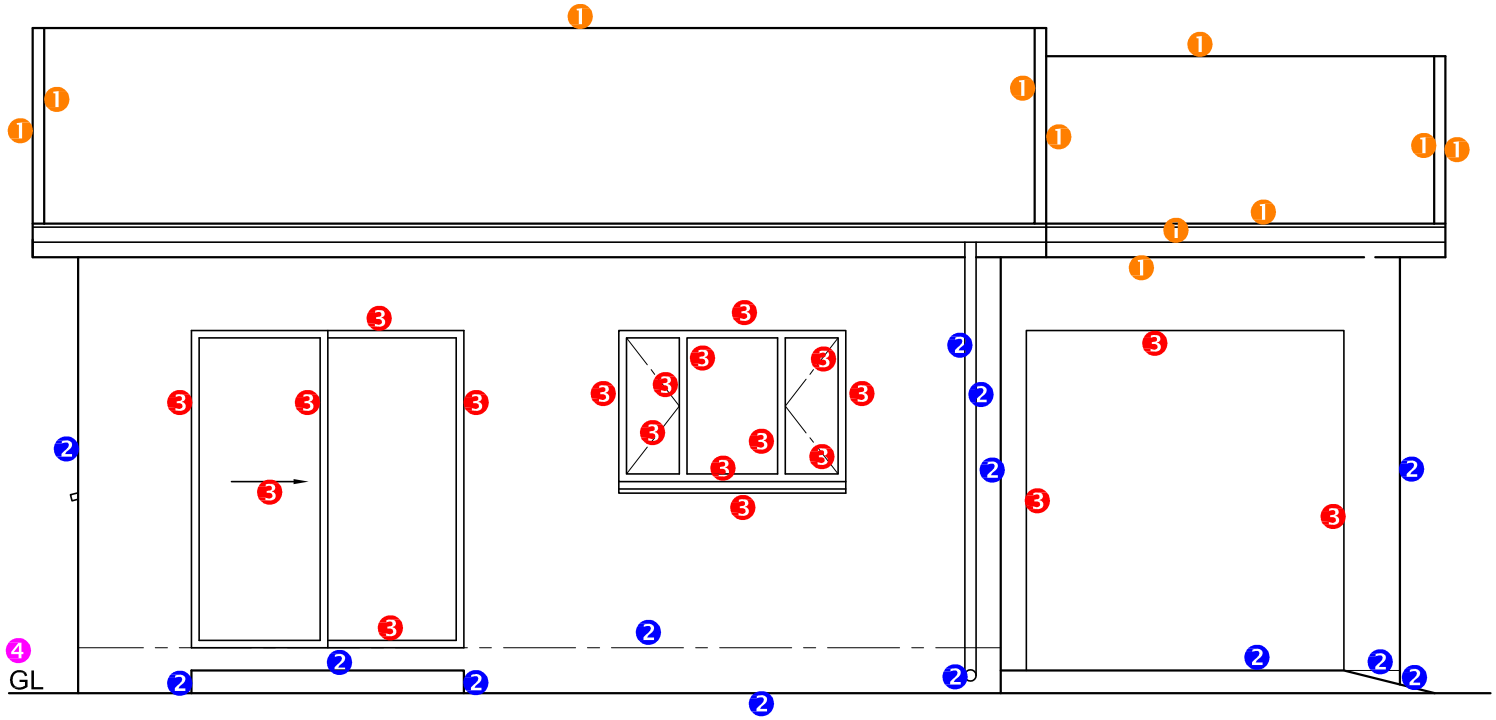
4. HATCHING ALLOCATION

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**

Please turn over



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		**$23\frac{1}{2}$**

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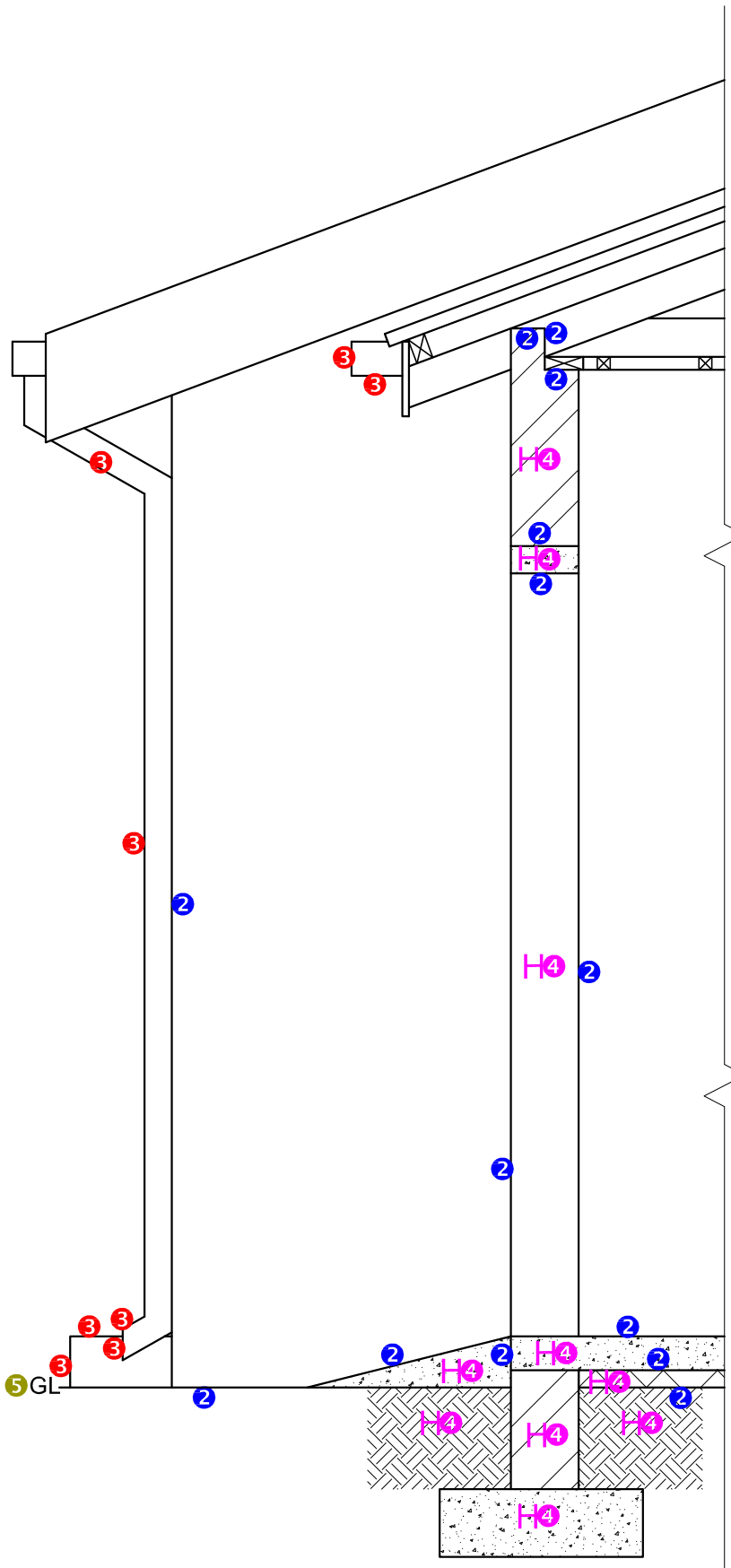

SECTION A-A
SCALE 1 : 20

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

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 $\frac{1}{2}$**

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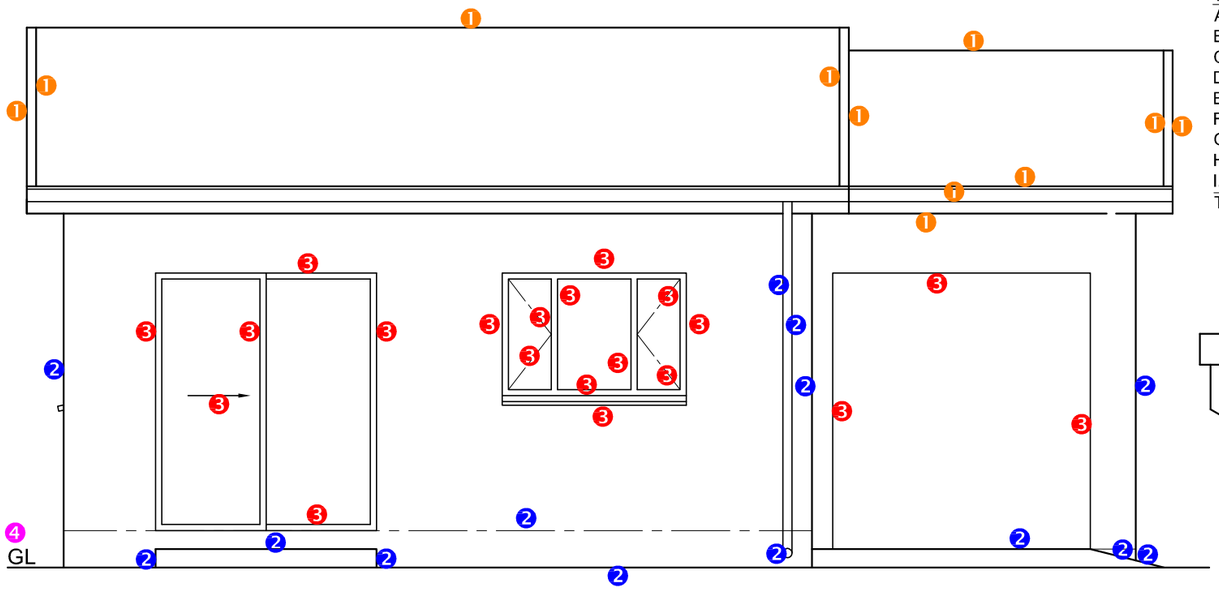
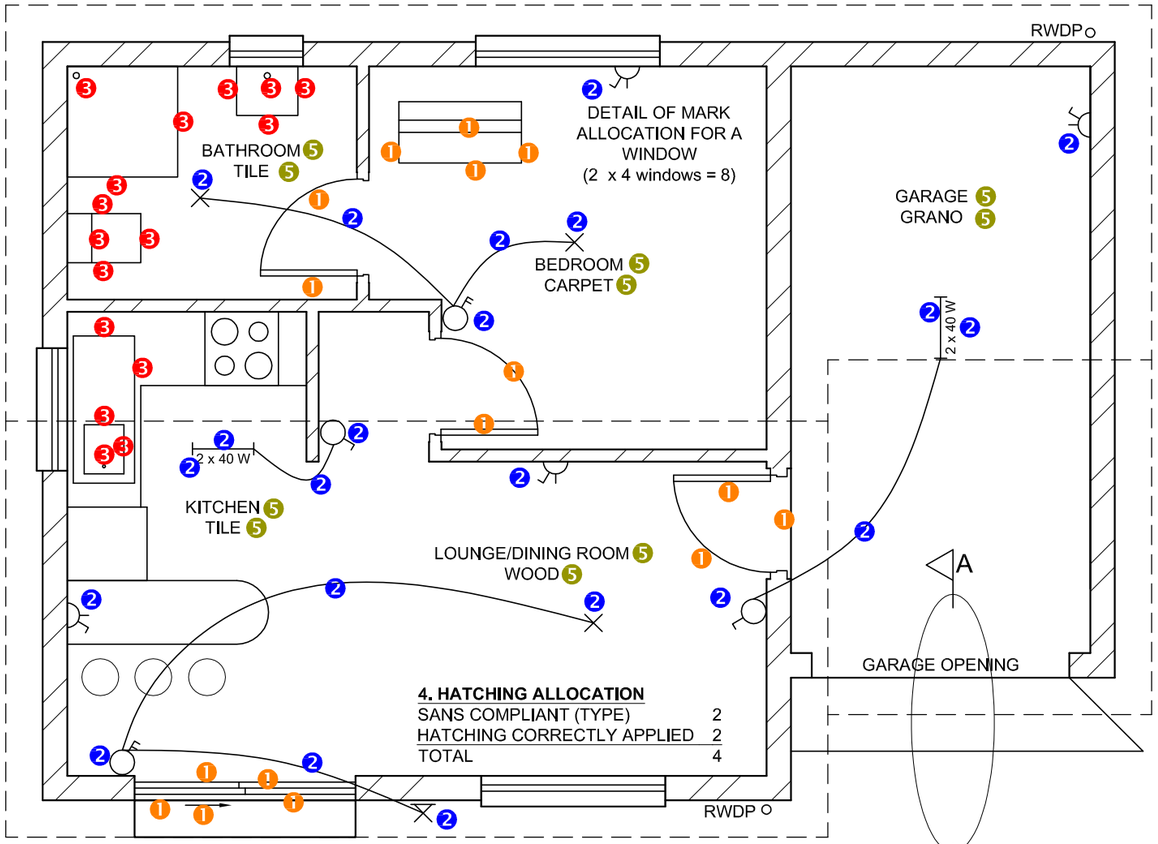


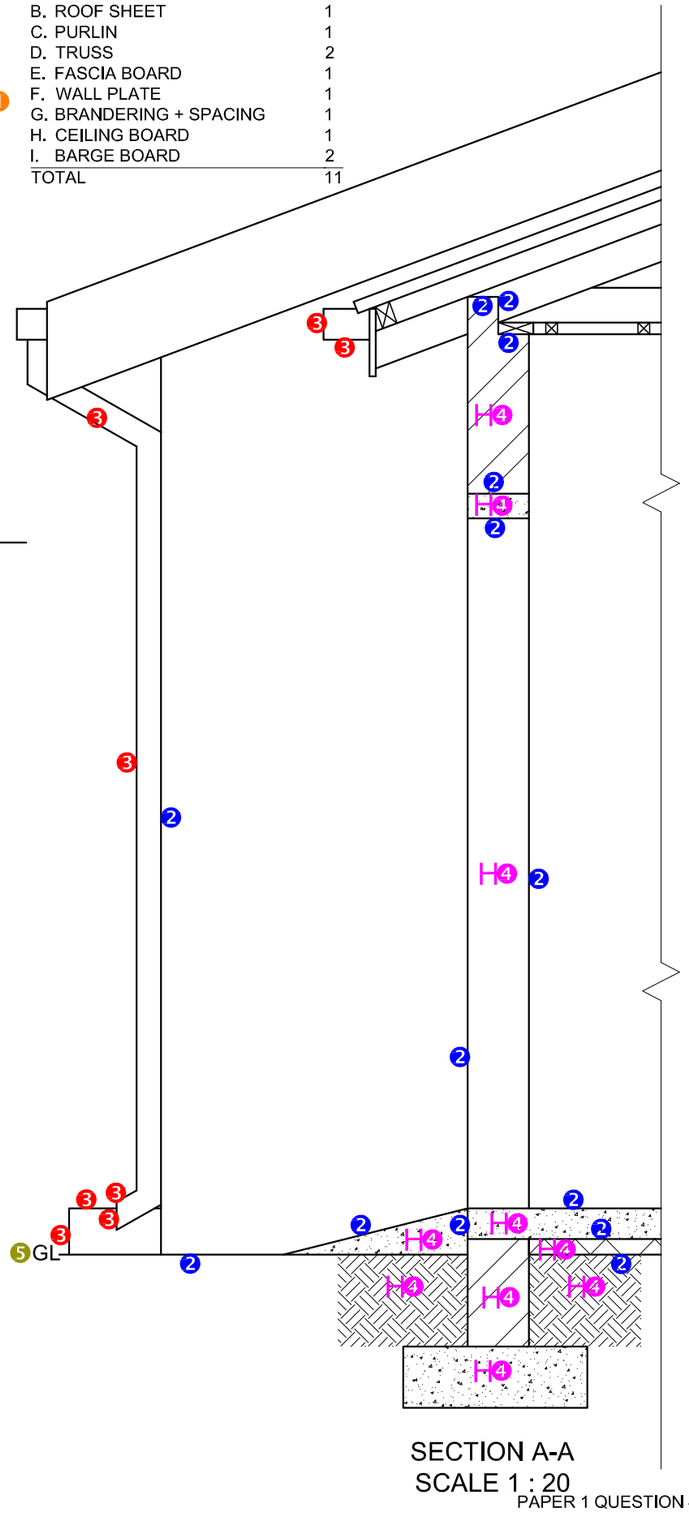
SOUTH ELEVATION 4



FLOOR PLAN
SCALE 1 : 50

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

4. HATCHING ALLOCATION

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

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

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INCORRECT SCALE	
INCORRECT POSITIONING OF VIEWS	
NON-ALIGNMENT OF VIEWS	
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	$5\frac{1}{2}$				
2	WALLS + RWDP + FFL	7				
3	DOOR + WINDOW	10				
4	LABELS	1				
SUBTOTAL		**$23\frac{1}{2}$**				
DETAILED SECTION						
1	ROOF	11				
2	FOUNDATION + WALLS + SLAB	7				
3	GUTTER + RWDP	4				
4	HATCHING	5				
5	LABELS	$\frac{1}{2}$				
SUBTOTAL		**$27\frac{1}{2}$**				
TOTAL		**93**				
PENALTIES (-)						
GRAND TOTAL						

EXAMINATION NUMBER

EXAMINATION NUMBER

PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2016
MEMORANDUM

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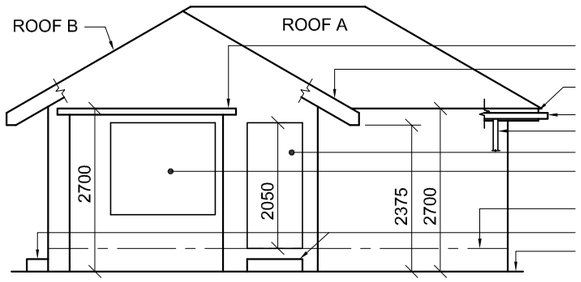
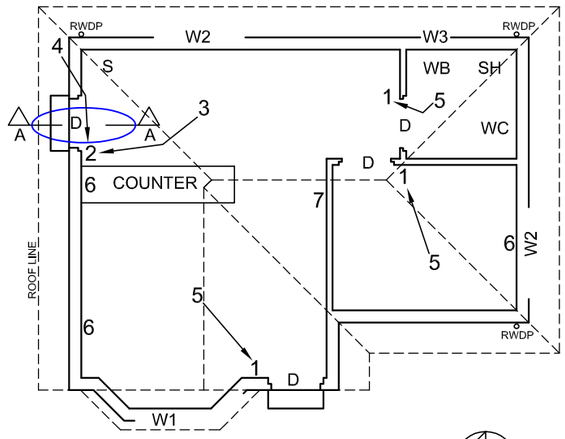


100 mm THICK FLAT CONCRETE ROOF
200 x 9 mm FIBRE CEMENT BARGE BOARD
250 x 9 mm FIBRE CEMENT FASCIA BOARD
150 x 100 mm GUTTER
Ø70 mm RWDP
DOOR OPENING
BAY WINDOW OPENING

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

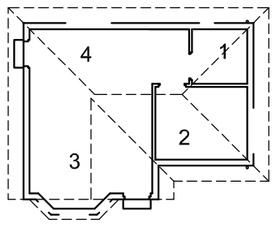
FIXTURES

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.



ROOM DESIGNATIONS

FLOOR FINISHES

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

ROOF NOTES:
30° ROOF PITCH

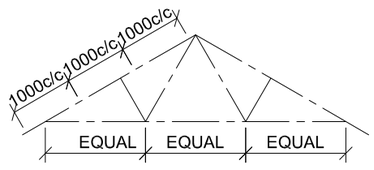
114 x 38 mm ROOF TRUSS ON 114 x 38 mm WALL PLATES

500 mm ROOF OVERHANG TO END OF ROOF TRUSS

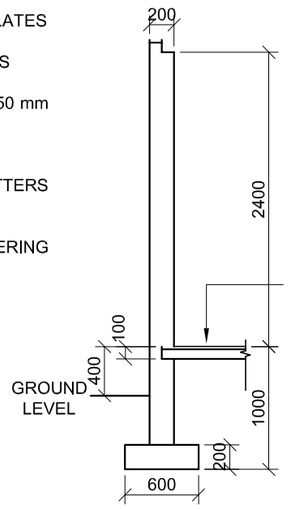
10 mm FIBRE CEMENT ROOF SHEETING ON 75 x 50 mm PURLINS @ 1000 mm c/c

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 BRANDERING STRIPS @ 400 mm c/c



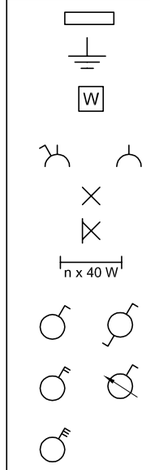
SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR ROOF B



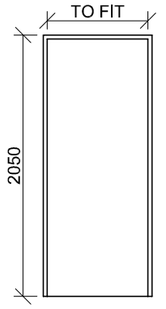
INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL

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

ELECTRICAL SYMBOLS

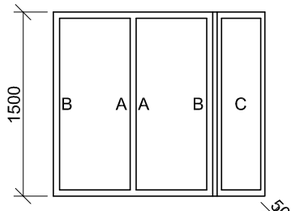


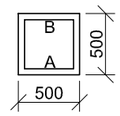
DOOR AND WINDOW SCHEDULE



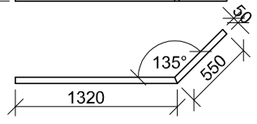
DOOR FRAME AND DOOR (D)

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

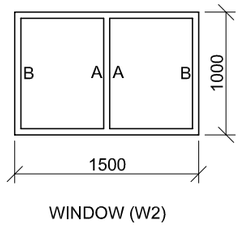




WINDOW (W3)



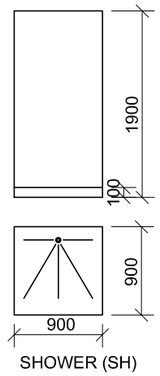
BAY WINDOW (W1)



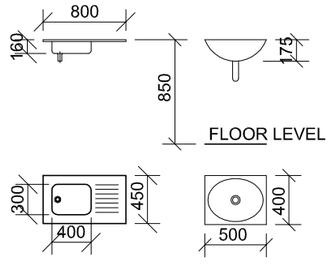
WINDOW (W2)

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

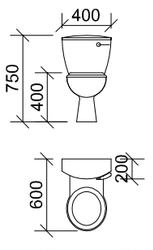
FIXTURES



SHOWER (SH)



SINK (S) WASHBASIN (WB)



TOILET (WC)

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]**

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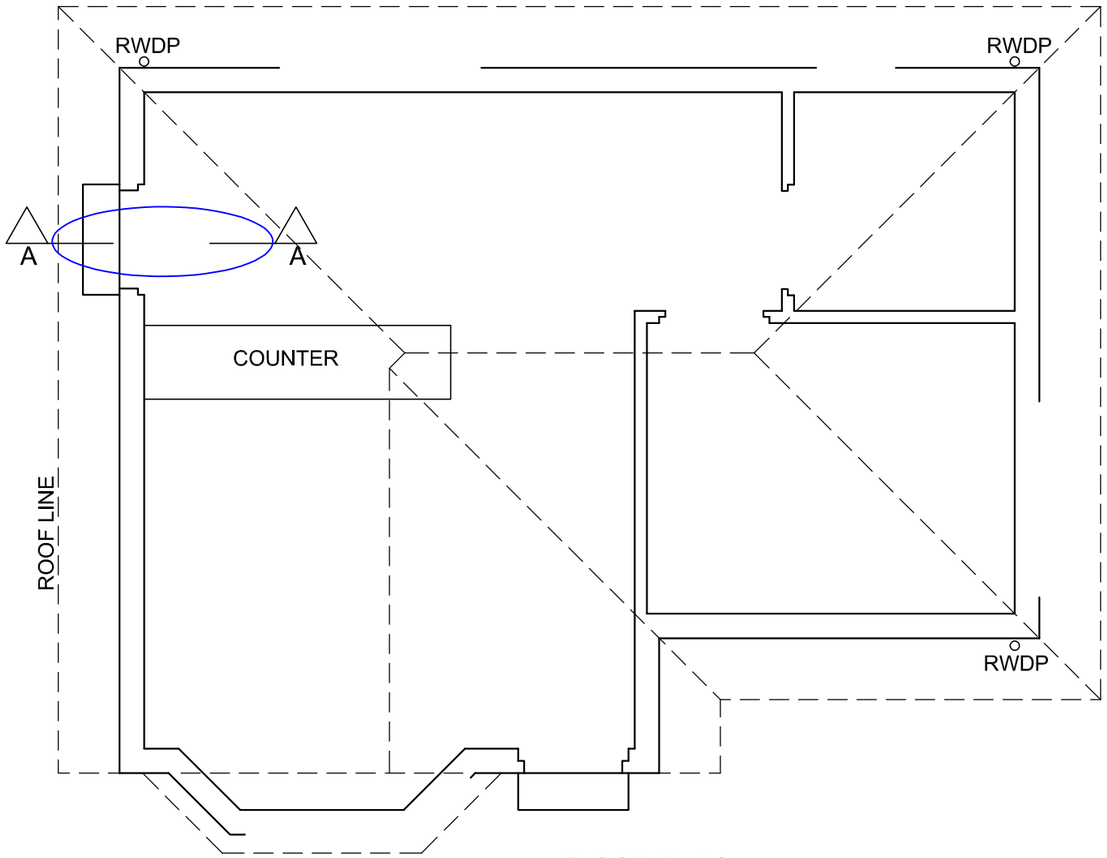

DETAILED SECTION A-A
SCALE 1 : 20

FLOOR PLAN
SCALE 1 : 50

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

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	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

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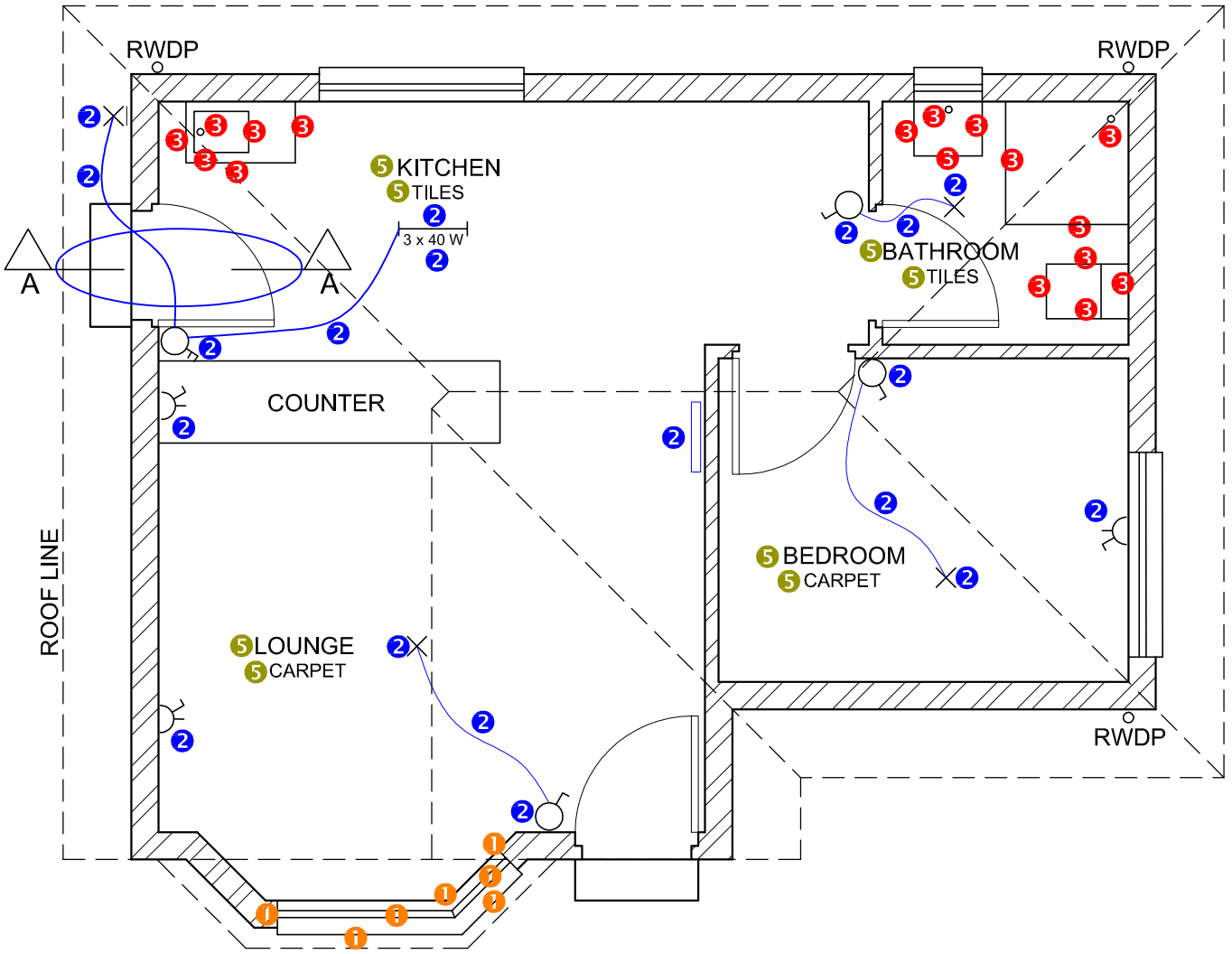
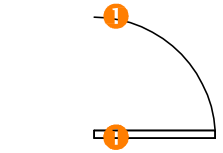


FLOOR PLAN
SCALE 1 : 50



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

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

4 HATCHING ALLOCATION

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

FLOOR PLAN		
		POSSIBLE
1	DOORS + WINDOWS	13½
2	ELECTRICAL	9½
3	FIXTURES	8½
4	HATCHING	3
5	LABELS	4
SUBTOTAL		**38½**

PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES

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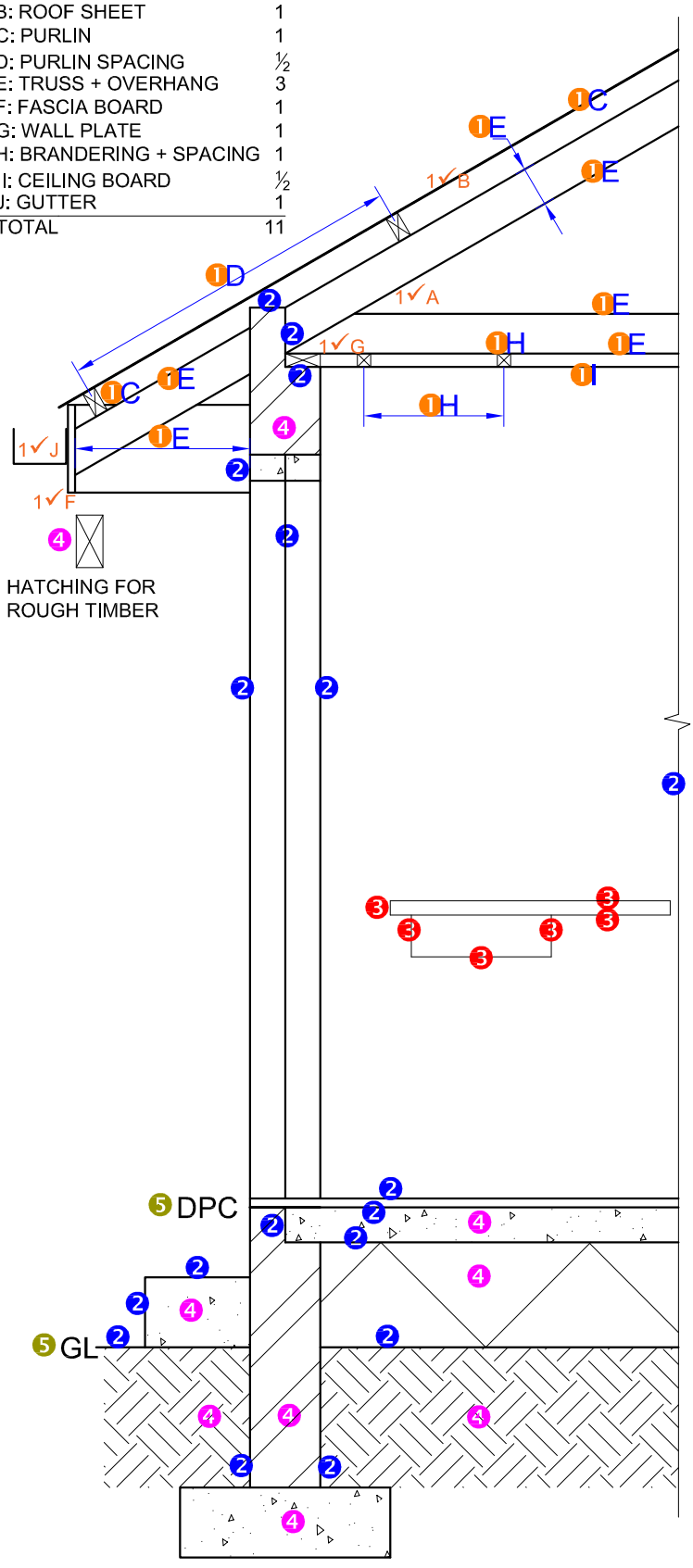
MARK ALLOCATION FOR ROOF (1)

A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN	1
D: PURLIN SPACING	½
E: TRUSS + OVERHANG	3
F: FASCIA BOARD	1
G: WALL PLATE	1
H: BRANDERING + SPACING	1
I: CEILING BOARD	½
J: GUTTER	1
TOTAL	11



DETAILED SECTION		
1	ROOF DETAIL	11
2	FOUNDATION + WALL + DOOR	9
3	SINK	3
4	HATCHING	4½
5	LABELS	1
SUBTOTAL		28½

DETAILED SECTION A-A
SCALE 1 : 20

PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2017
MARKING GUIDELINES

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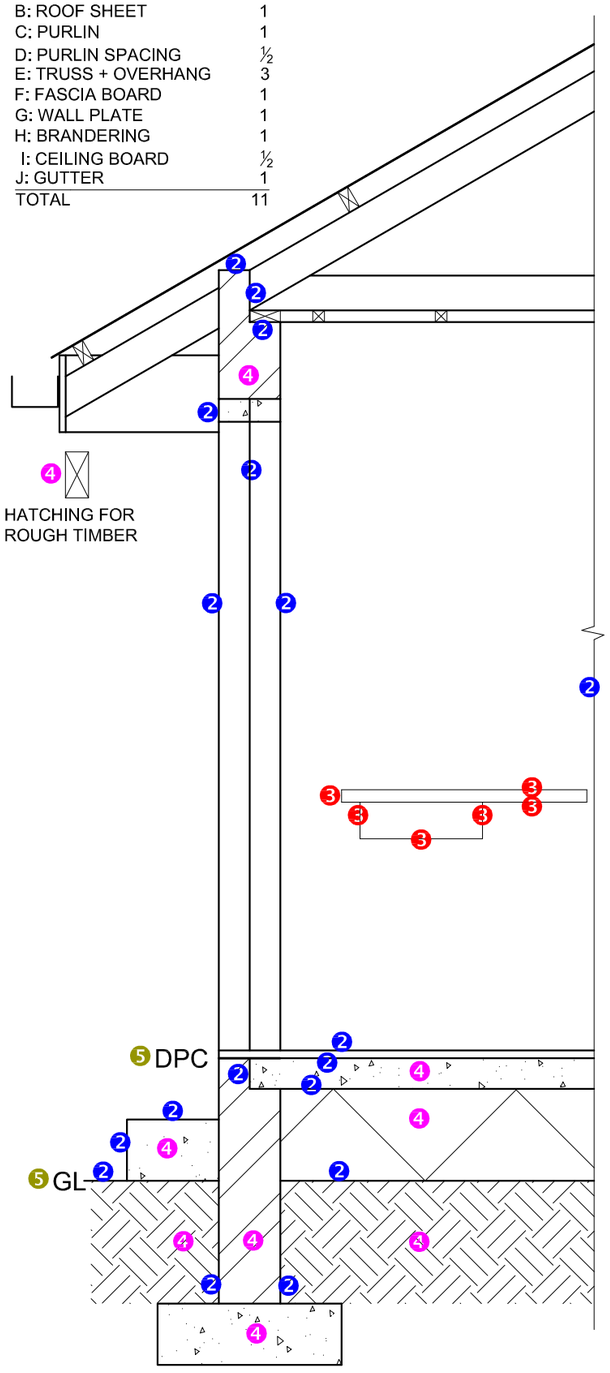
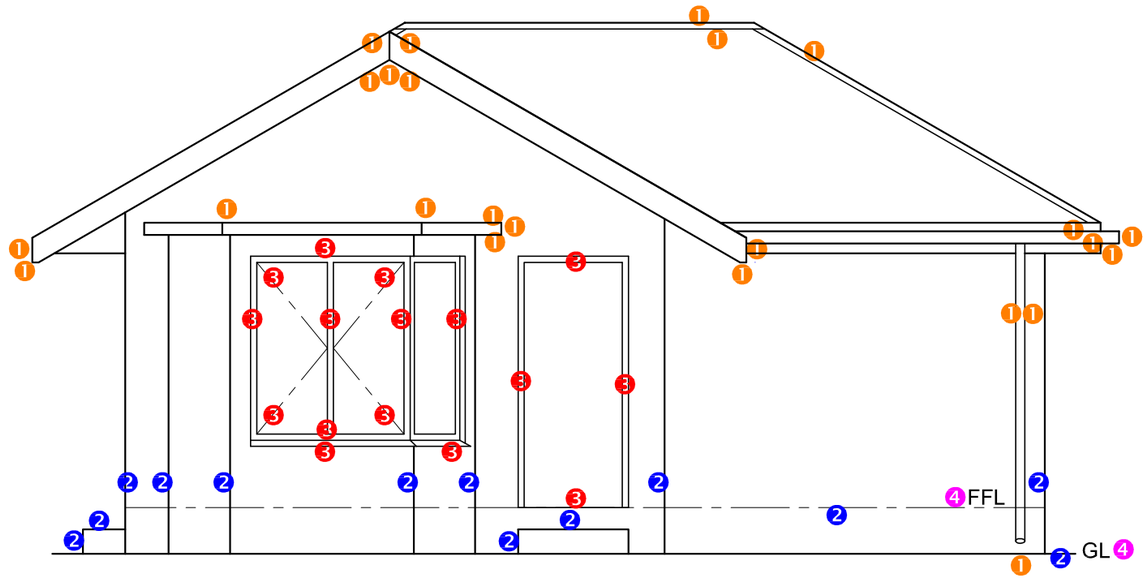
MARK ALLOCATION FOR ROOF (1)

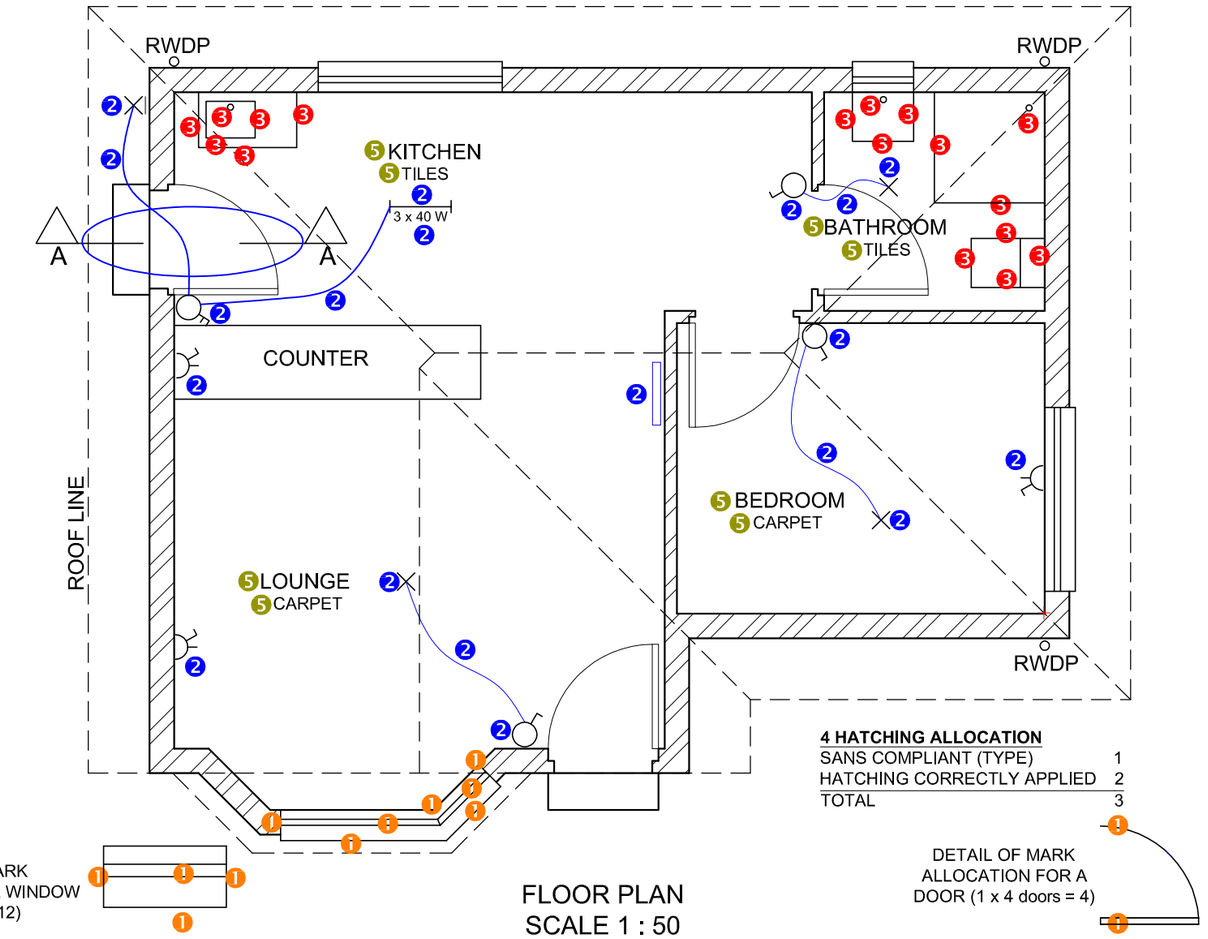
A: ROOF ANGLE	1
B: ROOF SHEET	1
C: PURLIN	1
D: PURLIN SPACING	½
E: TRUSS + OVERHANG	3
F: FASCIA BOARD	1
G: WALL PLATE	1
H: BRANDERING	1
I: CEILING BOARD	½
J: GUTTER	1
TOTAL	11



DETAILED SECTION A-A
SCALE 1 : 20



WEST ELEVATION 4



FLOOR PLAN
SCALE 1 : 50

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

4 HATCHING ALLOCATION

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

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

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

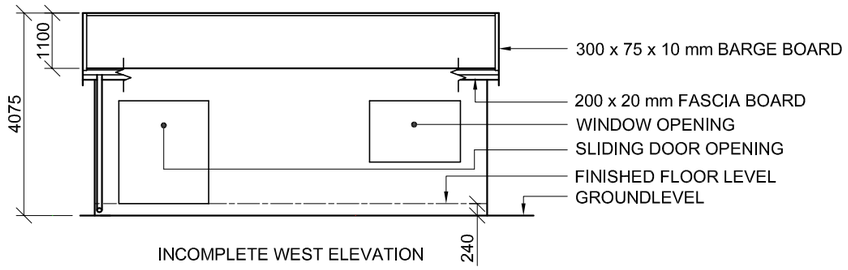
MARK ALLOCATION FOR ROOF SECTION

A	B	C	D	E	F	G	H	I	J

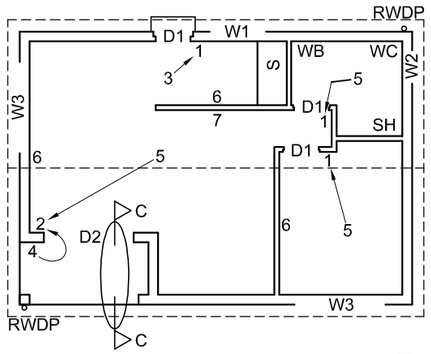
ASSESSMENT CRITERIA

FLOOR PLAN

		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	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					



INCOMPLETE WEST ELEVATION



INCOMPLETE FLOOR PLAN

FEATURES

D1	DOOR
D2	SLIDING DOOR
W1 TO **W3**	WINDOWS

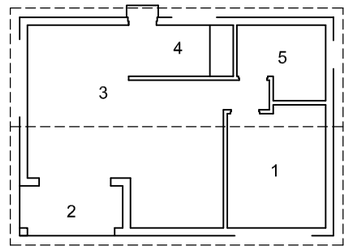
FIXTURES

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 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.

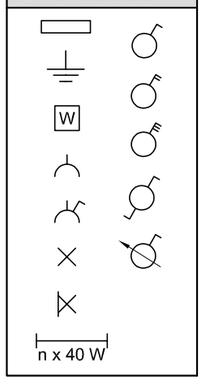


ROOM DESIGNATIONS

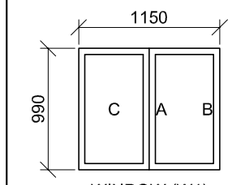
FLOOR FINISHES

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

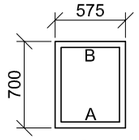
ELECTRICAL SYMBOLS



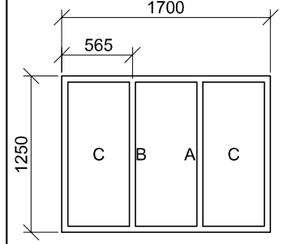
DOOR AND WINDOW SCHEDULE



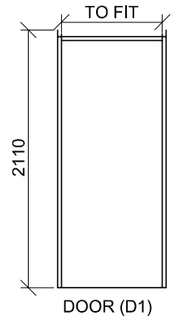
WINDOW (W1)



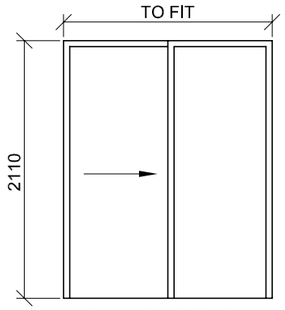
WINDOW (W2)



WINDOW (W3)



DOOR (D1)



SLIDING DOOR (D2)

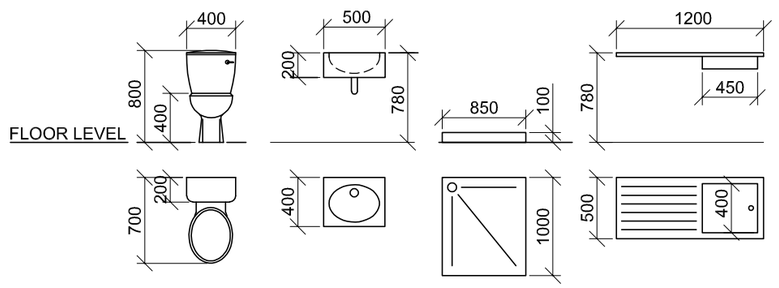
WINDOW NOTES:

- A = OPENING SIDE
- B = HINGED SIDE
- C = FIXED PANEL
- 150 x 20 mm FIBRE CEMENT SILL UNDER ALL WINDOWS
- ALL FRAMES 50 mm THICK

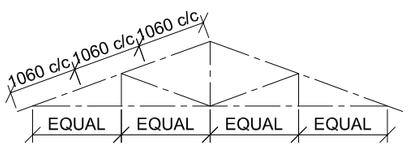
ROOF COMPONENTS

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

FIXTURES



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



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

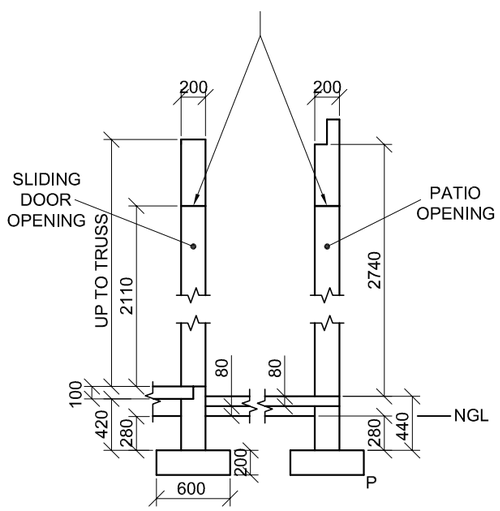
300 x 75 x 10 mm BARGE BOARD ON GABLE ENDS, 20 mm PAST THE GUTTER

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 BRANDERING STRIPS @ 460 mm c/c

200 x 80 mm LINTELS ABOVE ALL DOORS, WINDOWS AND OPENINGS, ALL AT THE SAME HEIGHT



INCOMPLETE DETAIL OF FOUNDATIONS AND WALLS FOR THE VERANDA

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]**

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STAPLE

FLOOR PLAN
SCALE 1 : 50

DETAILED SECTION C-C
SCALE 1 : 20

P

MARK ALLOCATION FOR ROOF SECTION (4.2)	
A (1)	
B (1)	
C (2)	
D (3)	
E (2)	
F (1)	
G (1)	
H (2)	
I (1)	
J (1)	
TOTAL	

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

ASSESSMENT CRITERIA					
FLOOR PLAN					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	DOORS + WINDOWS	13 ½			
2	FIXTURES	7			
3	ELECTRICAL	9 ½			
4	HATCHING	4			
5	LABELS	5			
SUBTOTAL		**39**			
WEST ELEVATION					
1	ROOF + RWDP	5 ½			
2	WALLS + FFL + STEP	4			
3	DOOR + WINDOW	7 ½			
4	LABELS	1 ½			
SUBTOTAL		**18 ½**			
DETAILED SECTION					
1	ROOF	12			
2	FOUNDATION + WALL + SLAB + DOOR + LINTEL	13 ½			
3	HATCHING	9			
4	LABELS	1			
SUBTOTAL		**35 ½**			
TOTAL		**93**			
TOTAL PENALTIES (-)					
GRAND TOTAL					

EXAMINATION NUMBER

EXAMINATION NUMBER 6

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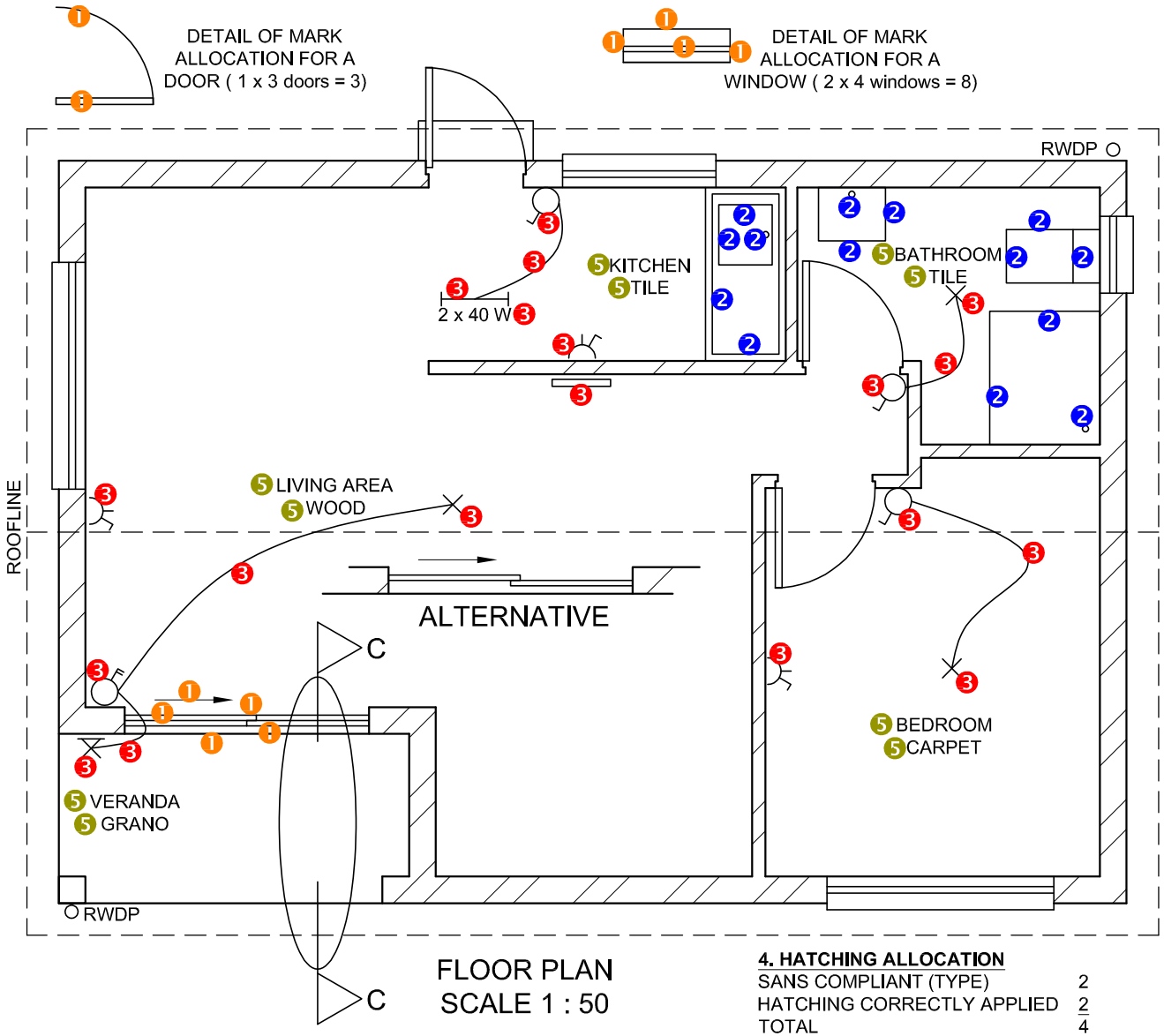

FLOOR PLAN
SCALE 1 : 50

4. HATCHING ALLOCATION

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

PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

ASSESSMENT CRITERIA		
FLOOR PLAN		
		POSSIBLE
1	DOORS + WINDOWS	13 ½
2	FIXTURES	7
3	ELECTRICAL	9 ½
4	HATCHING	4
5	LABELS	5
SUBTOTAL		39

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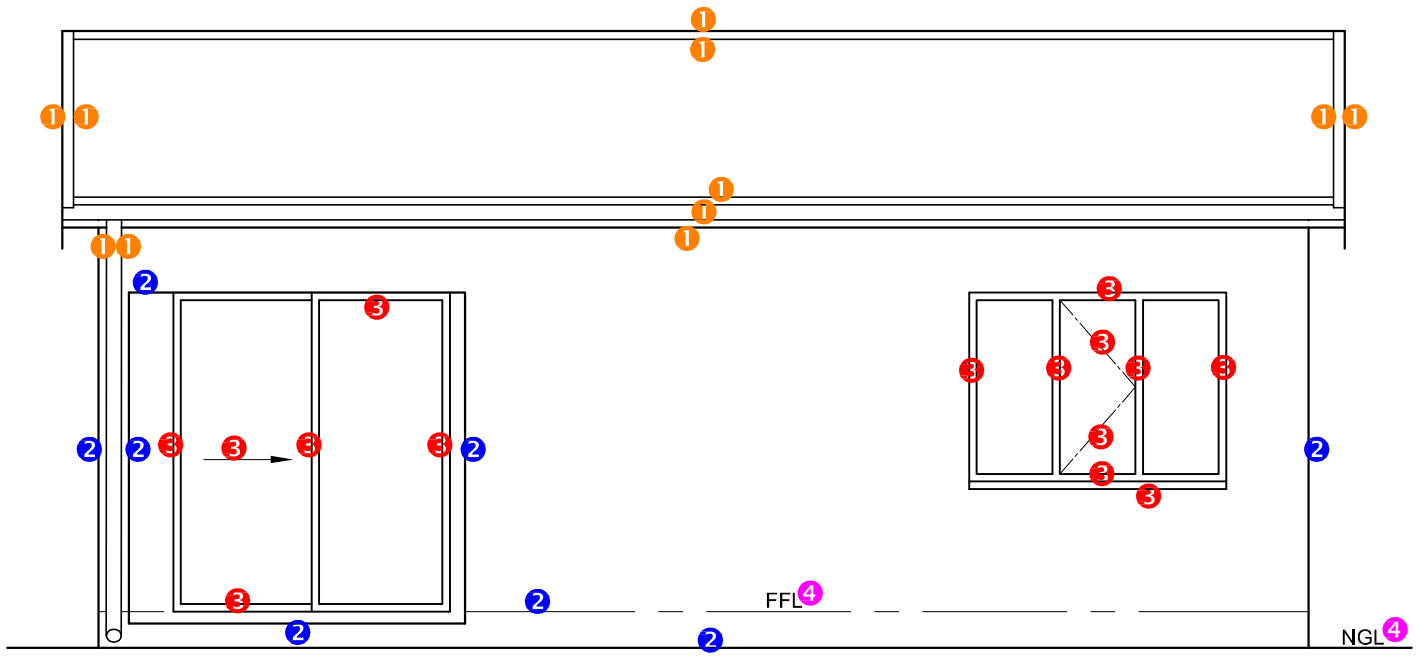
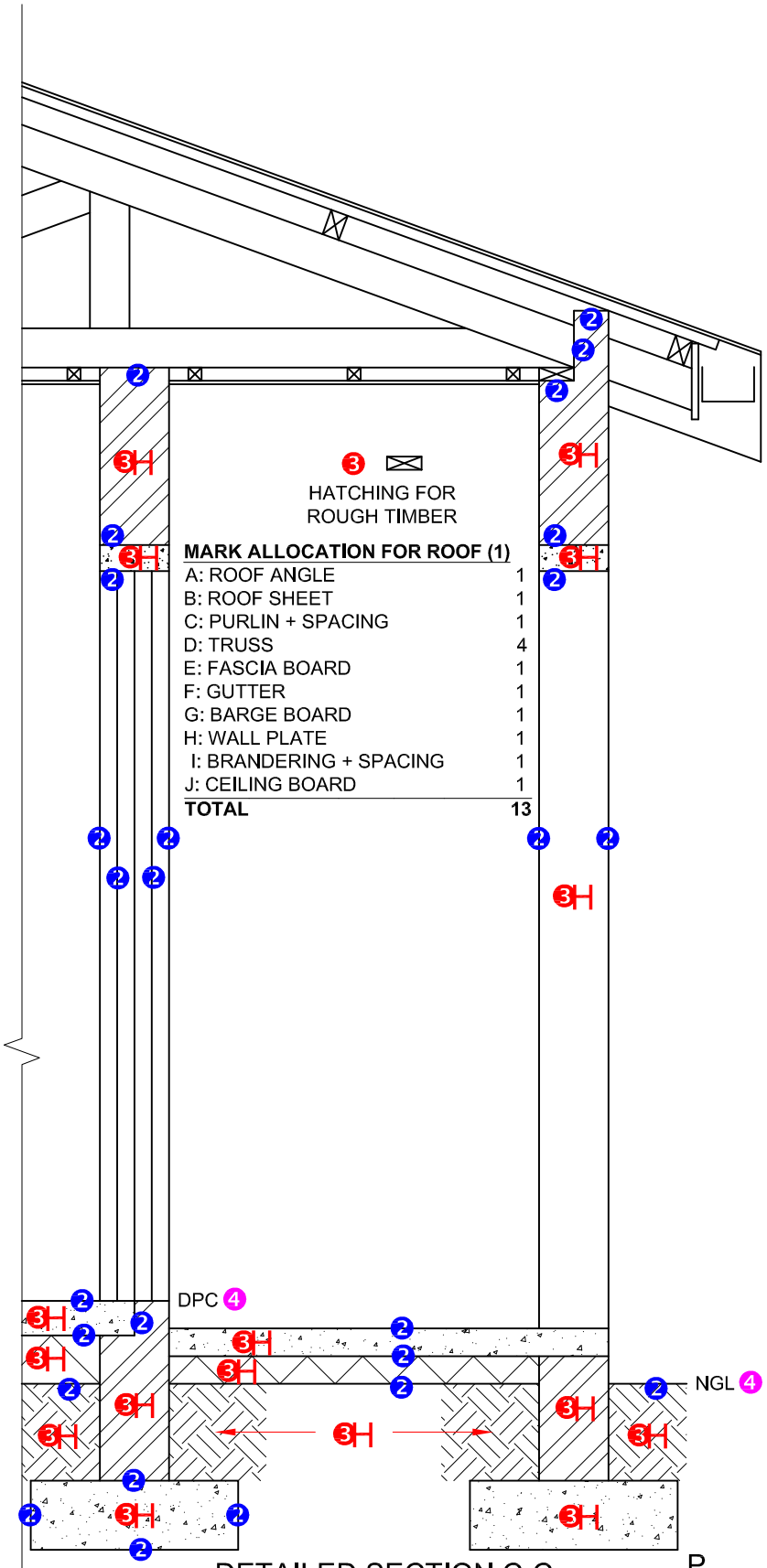


WEST ELEVATION 4

PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

ASSESSMENT CRITERIA		
WEST ELEVATION		
1	ROOF + RWDP	5 ½
2	WALLS + FFL + STEP	4
3	DOOR + WINDOW	7 ½
4	LABELS	1 ½
SUBTOTAL		18 ½

Please turn over

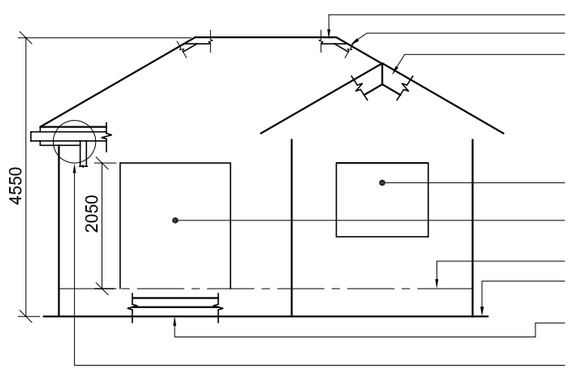


DETAILED SECTION C-C
SCALE 1 : 20

P

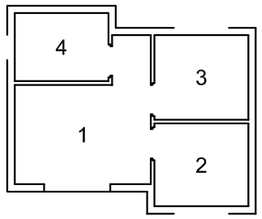
PAPER 1 QUESTION 4
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

ASSESSMENT CRITERIA		
DETAILED SECTION		
1	ROOF	13
2	FOUNDATION + WALL + SLAB + DOOR + LINTEL	13
3	HATCHING	8 ½
4	LABELS	1
SUBTOTAL		35 ½



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

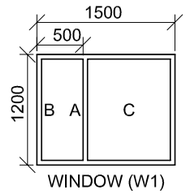


ROOM DESIGNATIONS

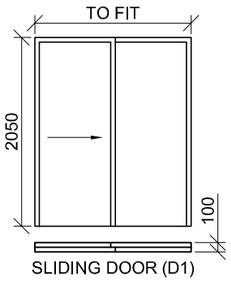
FLOOR FINISHES

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

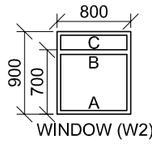
WINDOW AND DOOR SCHEDULE



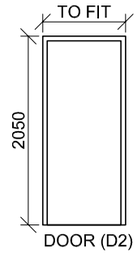
WINDOW (W1)



SLIDING DOOR (D1)



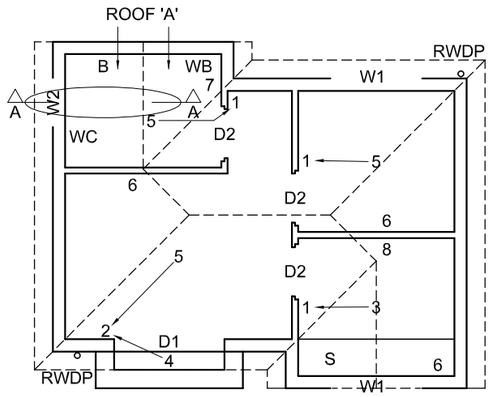
WINDOW (W2)



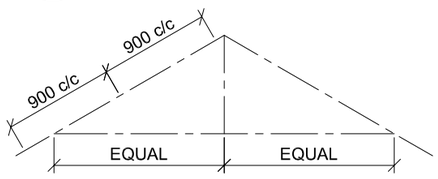
DOOR (D2)

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



INCOMPLETE FLOOR PLAN



SCHEMATIC DIAGRAM OF A ROOF TRUSS FOR ROOF 'A'

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

FEATURES

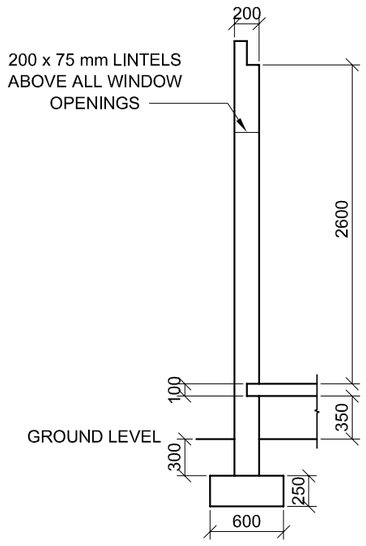
D1 + **D2**	DOORS
W1 + **W2**	WINDOWS

FIXTURES

WC	TOILET
WB	WASH BASIN
B	BATH
S	SINK

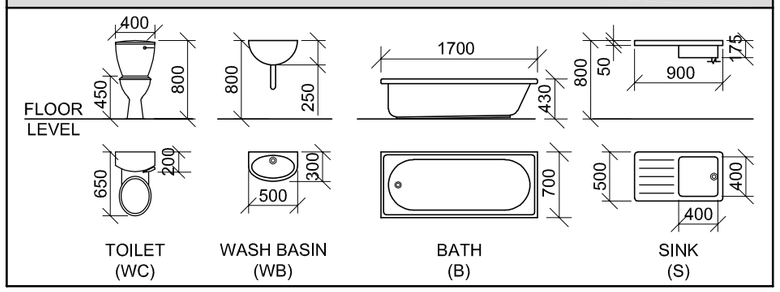
ELECTRICAL FITTINGS
1. ONE-WAY SWITCH - SINGLE-POLE
2. ONE-WAY SWITCH - DOUBLE-POLE
3. FLUORESCENT LIGHT 3 x 40 W
4. WALL-MOUNTED LIGHT
5. CEILING LIGHT
6. SWITCHED SOCKET OUTLET
7. SOCKET OUTLET
8. DISTRIBUTION BOARD

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



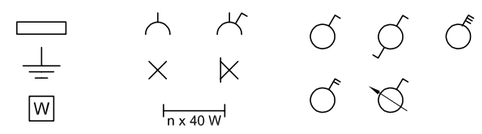
INCOMPLETE FOUNDATION AND EXTERNAL WALL DETAIL

FIXTURES



TOILET (WC) WASH BASIN (WB) BATH (B) SINK (S)

ELECTRICAL SYMBOLS



ROOF COMPONENTS

300	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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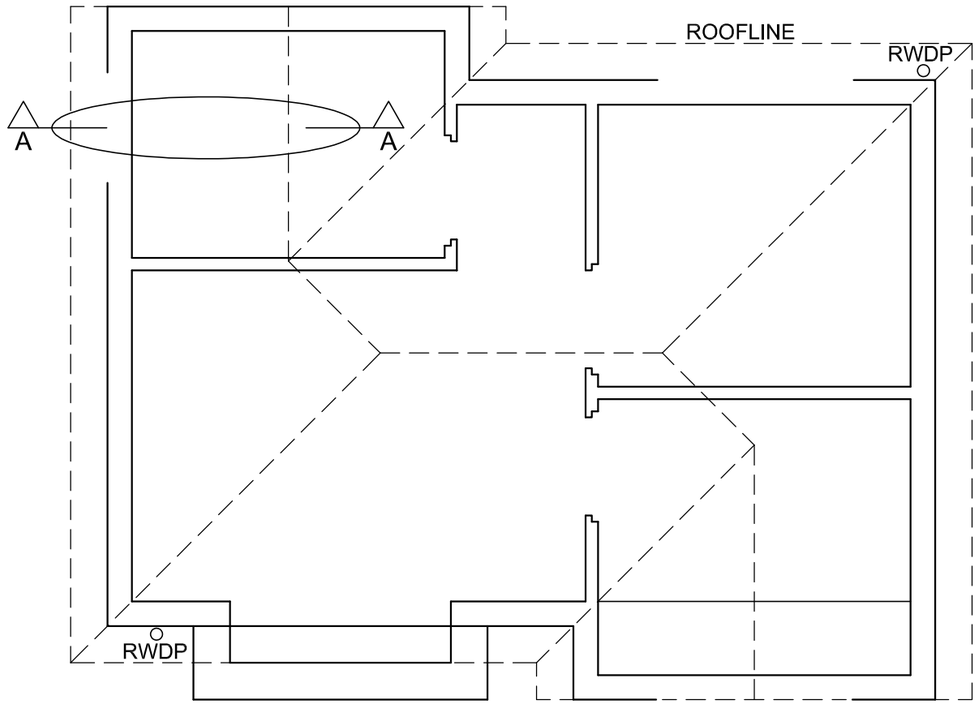
STAPLE



DETAILED SECTION A-A
SCALE 1 : 20

FLOOR PLAN
SCALE 1 : 50

MARK ALLOCATION FOR SECTION OF ROOF	
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					

EXAMINATION NUMBER

EXAMINATION NUMBER 6

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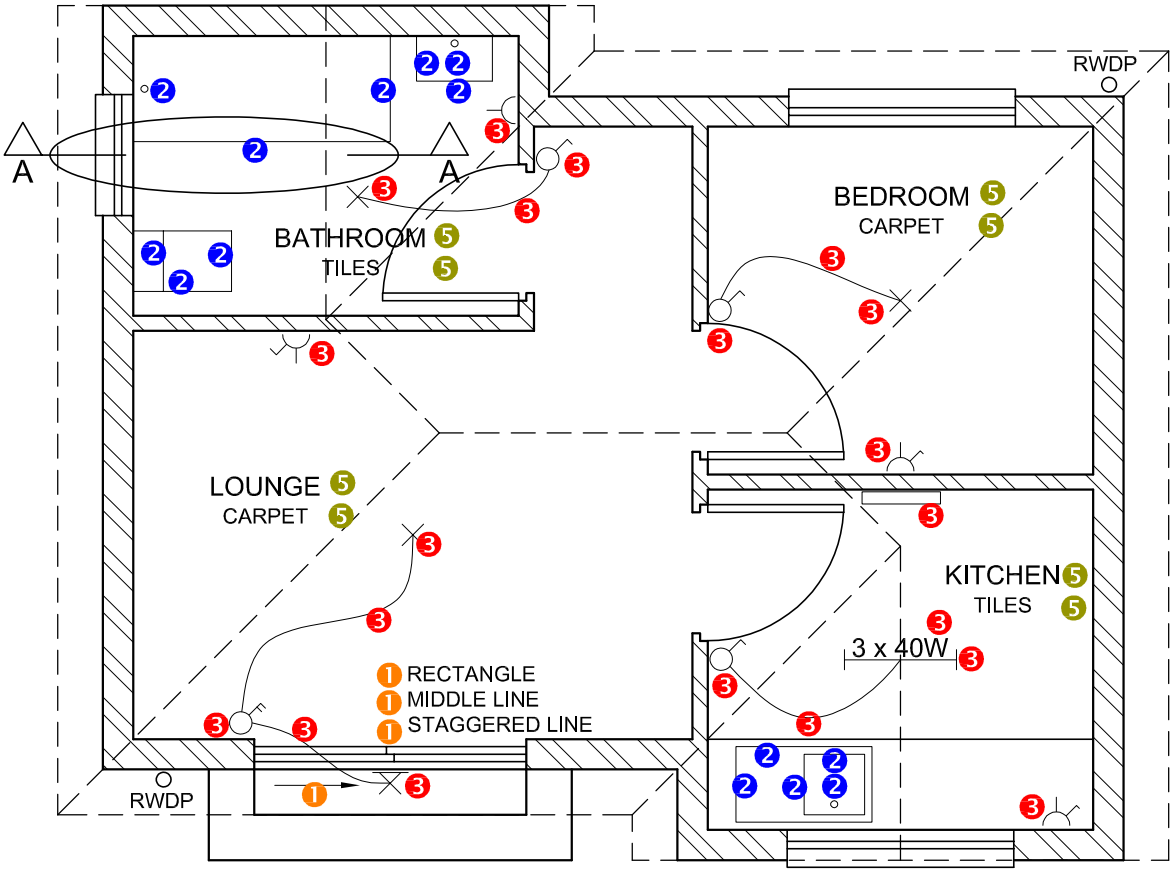
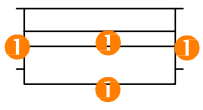
FLOOR PLAN		
1	DOORS + WINDOWS	11
2	FIXTURES	7
3	ELECTRICAL	10
4	HATCHING	3
5	LABELS	4
SUBTOTAL		35

4 HATCHING ALLOCATION

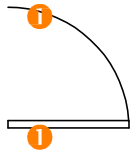
SANS COMPLIANT (TYPE)	1
HATCHING CORRECTLY APPLIED	2
TOTAL	3



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

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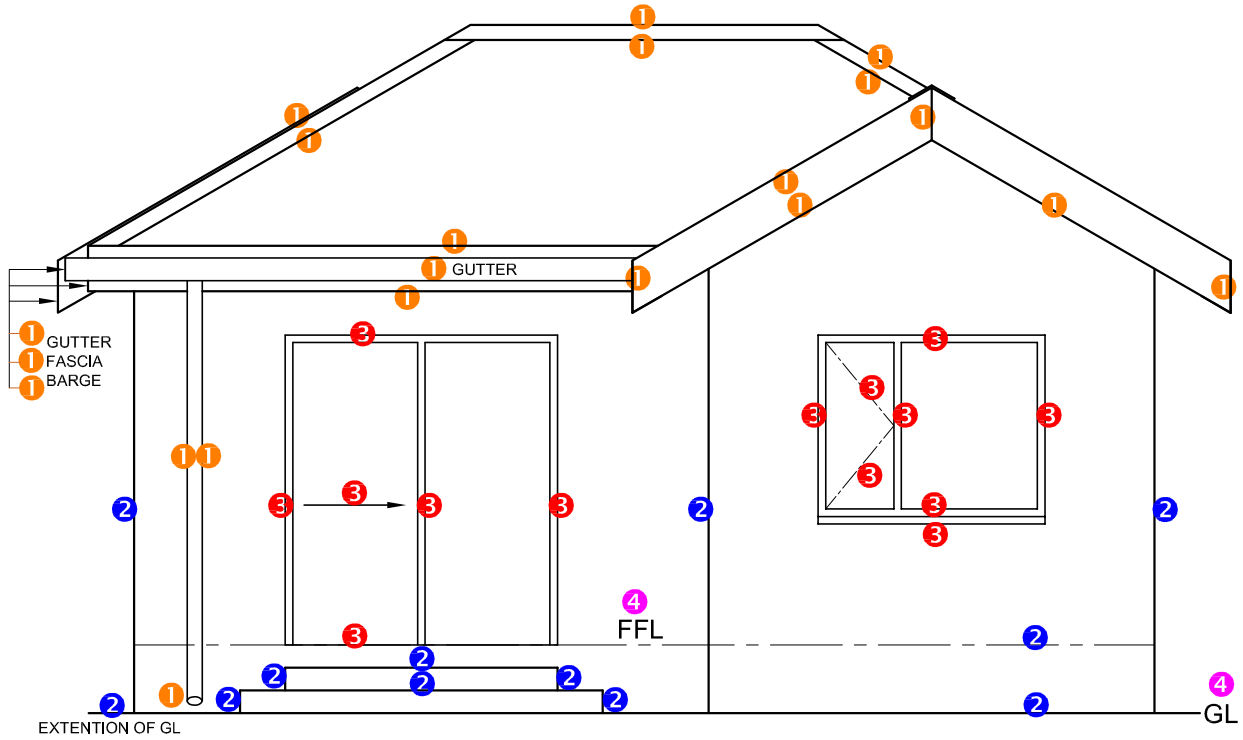
NORTH ELEVATION		
1	ROOF + RWDP	10 $\frac{1}{2}$
2	WALLS + STEP + FFL	6
3	DOOR + WINDOW	7
4	LABELS	1 $\frac{1}{2}$
SUBTOTAL		25



NORTH ELEVATION 4

PAPER 1 QUESTION 4
GRADE 12
NSC 2019
MARKING GUIDELINES

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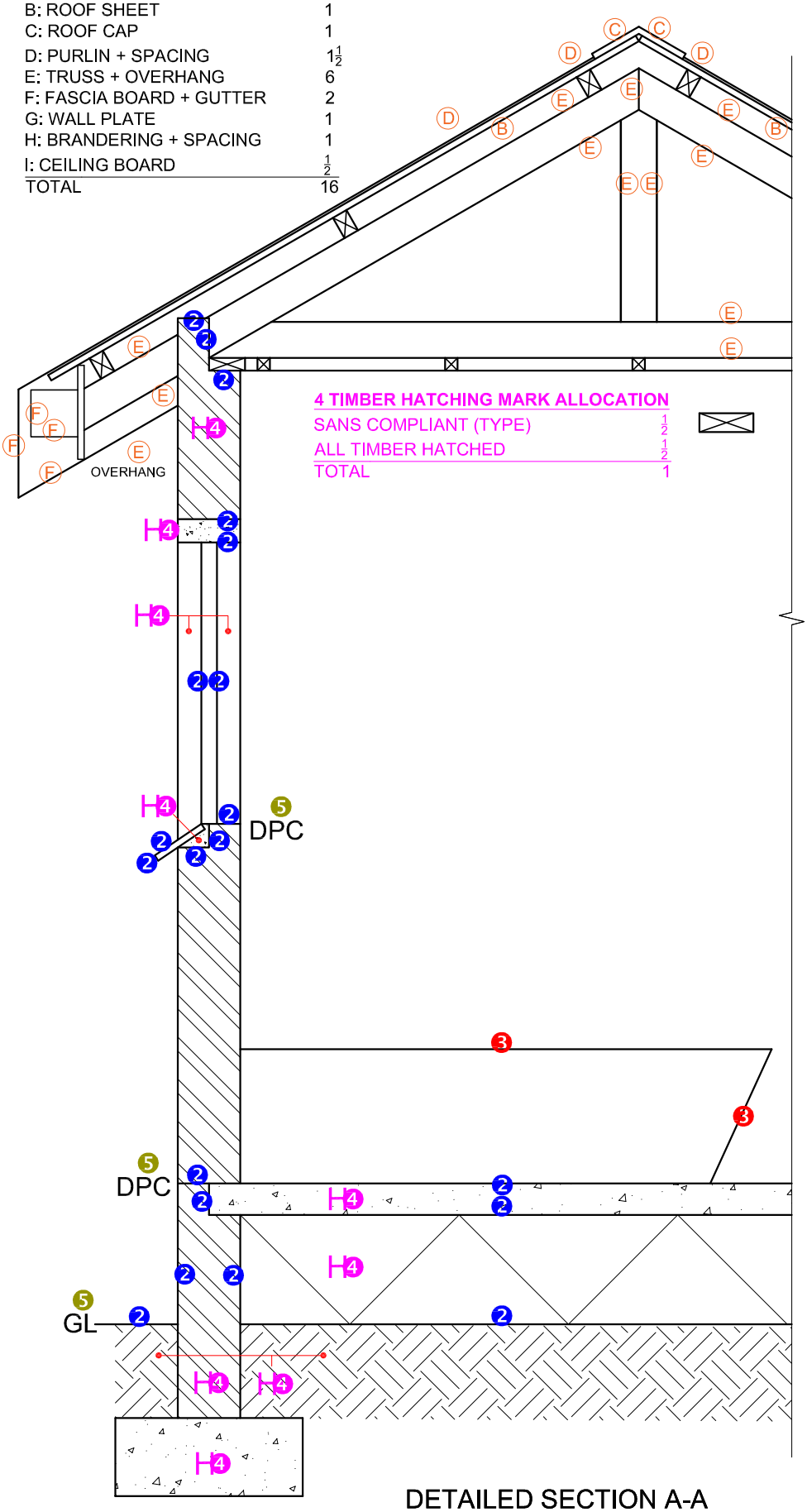
1. MARK ALLOCATION FOR ROOF

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



4 TIMBER HATCHING MARK ALLOCATION

SANS COMPLIANT (TYPE)	$\frac{1}{2}$
ALL TIMBER HATCHED	$\frac{1}{2}$
TOTAL	1

DETAILED SECTION

1	ROOF DETAIL	16
2	FOUNDATION + WALL + WINDOW	10
3	BATH	1
4	HATCHING	$5\frac{1}{2}$
5	LABELS	$1\frac{1}{2}$
SUBTOTAL		**34**

DETAILED SECTION A-A
SCALE 1 : 20

PAPER 1 QUESTION 4
GRADE 12
NSC 2019
MARKING GUIDELINES

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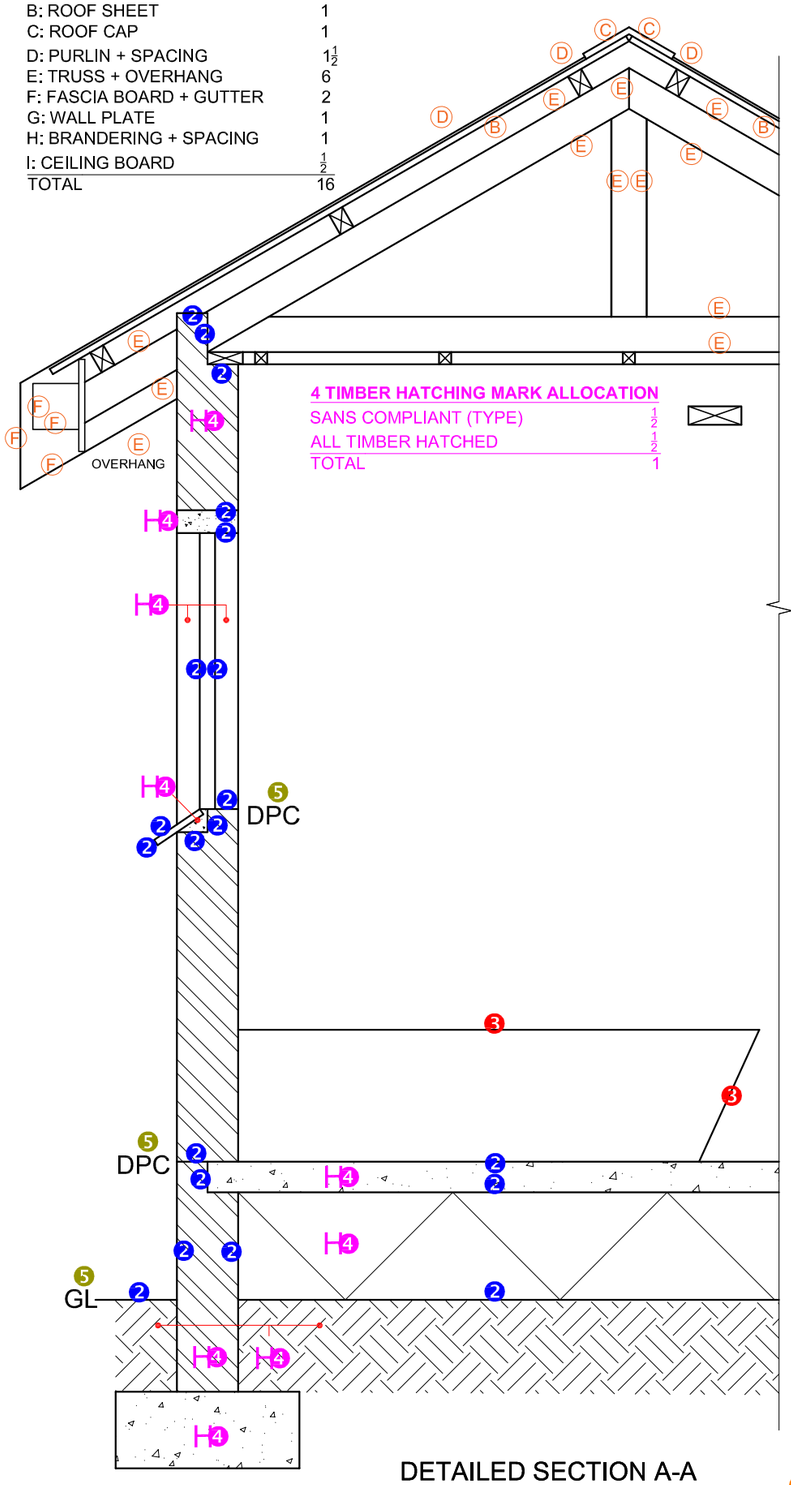
1. MARK ALLOCATION FOR ROOF

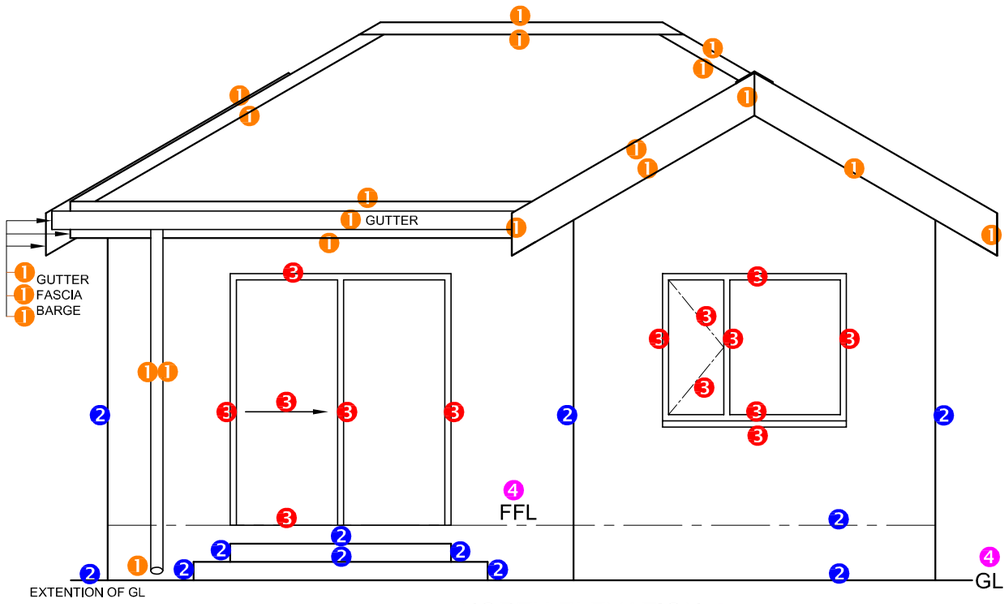
A: ROOF ANGLE 1 + 1	2
B: ROOF SHEET	1
C: ROOF CAP	1
D: PURLIN + SPACING	1½
E: TRUSS + OVERHANG	6
F: FASCIA BOARD + GUTTER	2
G: WALL PLATE	1
H: BRANDERING + SPACING	1
I: CEILING BOARD	½
TOTAL	16



4 TIMBER HATCHING MARK ALLOCATION

SANS COMPLIANT (TYPE)	½
ALL TIMBER HATCHED	½
TOTAL	1

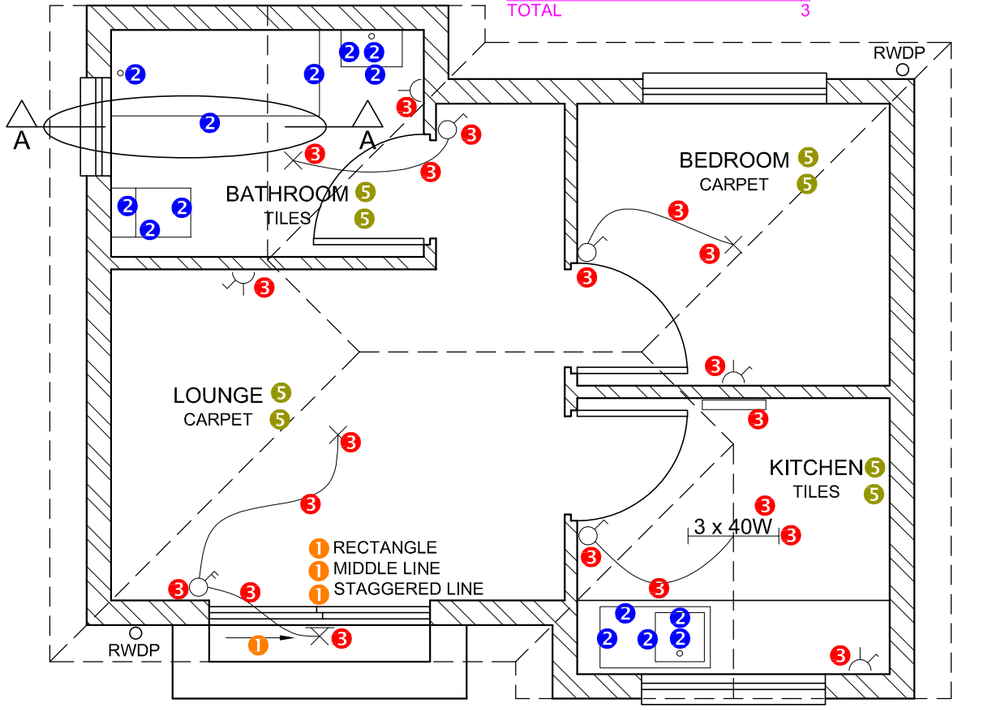
DETAILED SECTION A-A
SCALE 1 : 20



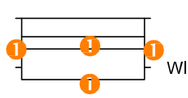
NORTH ELEVATION 4

4 HATCHING ALLOCATION

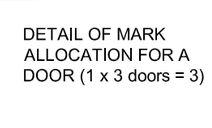
SANS COMPLIANT (TYPE)	1
HATCHING CORRECTLY APPLIED	2
TOTAL	3



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)

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

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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	10½			
2	WALLS + STEP + FFL	6			
3	DOOR + WINDOW	7			
4	LABELS	1½			
SUBTOTAL		**25**			
DETAILED SECTION					
1	ROOF DETAIL	16			
2	FOUNDATION + WALL + WINDOW	10			
3	BATH	1			
4	HATCHING	5½			
5	LABELS	1½			
SUBTOTAL		**34**			
TOTAL		**94**			
PENALTIES (-)					
GRAND TOTAL					

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