



**GAUTENG PROVINCE**

EDUCATION  
REPUBLIC OF SOUTH AFRICA

**JUNE EXAMINATION  
GRADE 12  
2024**

**ENGINEERING GRAPHICS AND DESIGN  
PAPER 1**

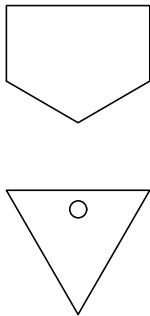
MARKS:100

TIME: 3 Hours

QUESTIONS		ANSWERS		
1	What scale is indicated for the site plan?	1:400	1	
2	In which city can the architectural company be found?	NEW YORK	1	
3	Name the company that printed the site plan?	HAWKEYE	1	
4	Who is the client?	T STARK	1	
5	What is the project number?	EGD2024P1-GDE	1	
6	What is the first revision?	ADDED A LEGEND	1	
7	What does the symbol at 1 indicate?	DIRECTION OF NORTH	1	
8	What is the width of Marvel Street in metres?	6	1	
9	Name the feature at 2.	CONTOUR LINE	1	
10	Which corner is the lowest corner on STAND 24?	B	1	
11	What does the abbreviation /C stand for?	INSPECTION CHAMBER	1	
12	How many palm trees are on STAND 24?	4	1	
13	Name the feature at 3.	WATT/ELECTRICAL METER	1	
14	What do the arcs at 4 indicate?	GATE SWING	1	
15	What does the dimension at 5 indicate?	HEIGHT ABOVE SEA LEVEL	1	
16	With regards to the building regulations, why would the proposed new extension NOT be accepted?	OVER THE BUILDING LINE	1	
17	What natural feature is south of STAND 24?	RIVER	1	
18	What does the arrow on the municipal sewer line indicate?	DIRECTION FLOW	2	
19	Why can nothing be built on the STAND next to boundary AB?	SERVITUDE	2	
20	In the space below (ANSWER 20), determine the perimeter of stand 24 in metres.		3	
21	In the space below (ANSWER 21), determine the total area of the existing building in square meters.		3	
22	In the space in the title panel (ANSWER 22), draw, in neat freehand, the elevation and plan of the SANS 10143 graphical symbol for a wall-mounted URINAL.		3	
TOTAL			30	

ANSWER 20:  
SHOW ALL  
CALCULATIONS.  
APPLYING THE ✓  
CORRECT  
FORMULA  
AB + BC + CD + DE+ EA  
25 + 14.142 + 30 +  
35 + 40  
=144.142 ✓  
  
CONVERTED TO ✓  
METERS

ANSWER 21:  
SHOW ALL CALCULATIONS. ✓  
APPLYING THE CORRECT FORMULA  
(18 x 15) - (11,5 x 1.5) - (7 x 4,55)  
= 220.9m<sup>2</sup> ✓  
CONVERTED TO METERS SQUARED ✓

ANSWER 22:  
  

1  
2

OPEN RECTANGLE

1  
2

OPEN TRIANGLE

1  
2

FREEHAND

1

TRIANGLE

1  
2

PLUG HOLE

4. MARK ALLOCATIONS  
- ANY RECOGNIZED METHOD  
FOR  
TRUE SHAPE

1
TOTAL

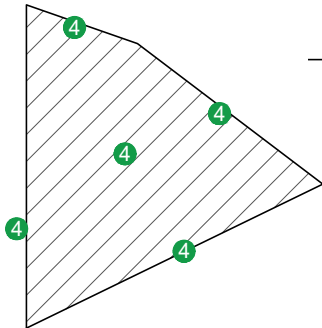
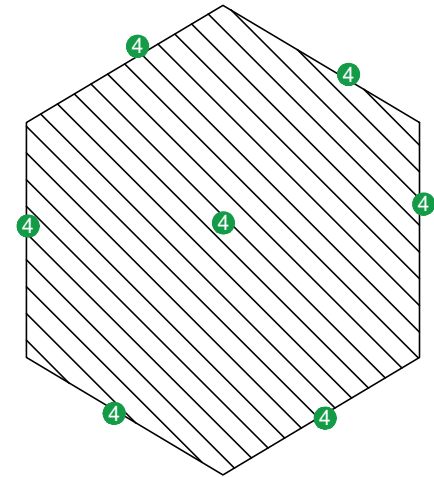
1  
1

ASSESSMENT CRITERIA			
1	FRONT VIEW + AUX	10	
2	SECTIONAL TOP VIEW	10 ½	
3	SECTIONAL LEFT VIEW	10 ½	
4	TRUE SHAPES	7	
TOTAL		38	

HEX. AUX. ✓

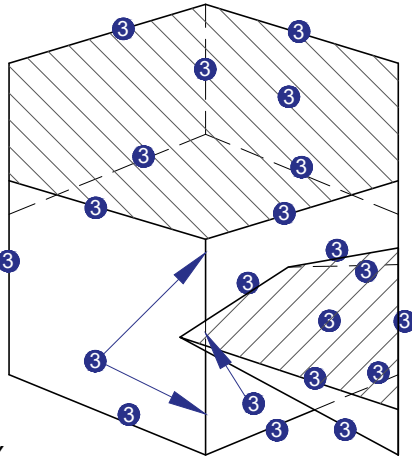
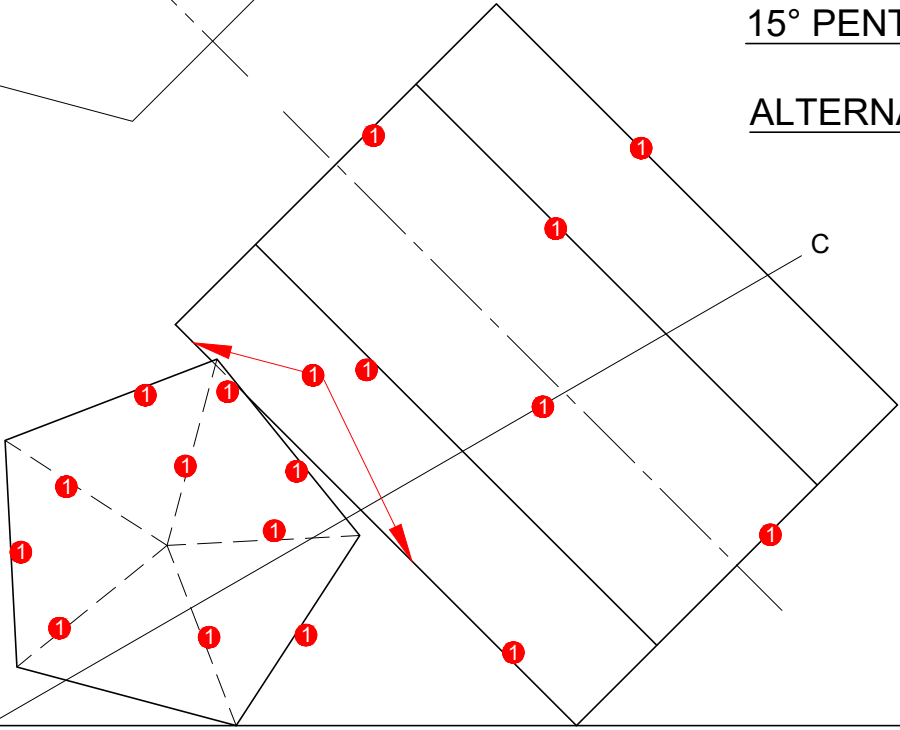
ALTERNATIVE ANSWER  
15° PENTAGON

ALTERNATIEWE ANTWOORD



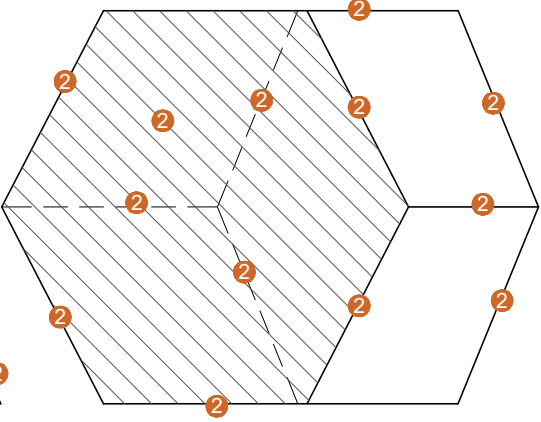
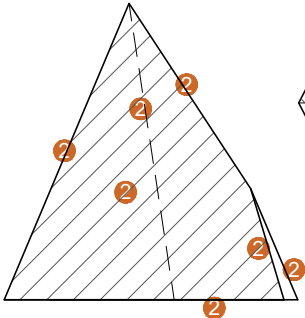
X

C



4.MARK ALLOCATIONS  
- ANY RECOGNIZED METHOD  
FOR  
TRUE SHAPE 1  
TOTAL 1

4.PUNTE TOEKENNING  
- ENIGE ERKENDE METODE  
VIR WARE VORM 1  
TOTAAL 1



49

2

ASSESSERINGSKRITERIA				
1	VOOR- en HULPAANSIG	10		
2	DEURSNEE-BOAANSIG	10 ½		
3	DEURSNEE LINKERAANSIG	10 ½		
4	WARE VORMS	7		
TOTAAL		38		

ASSESSMENT CRITERIA				
1	FRONT VIEW + AUX	10		
2	SECTIONAL TOP VIEW	10 ½		
3	SECTIONAL LEFT VIEW	10 ½		
4	TRUE SHAPES	7		
TOTAL		38		

RVP

PP

HL

GL

NAME AND SURNAME

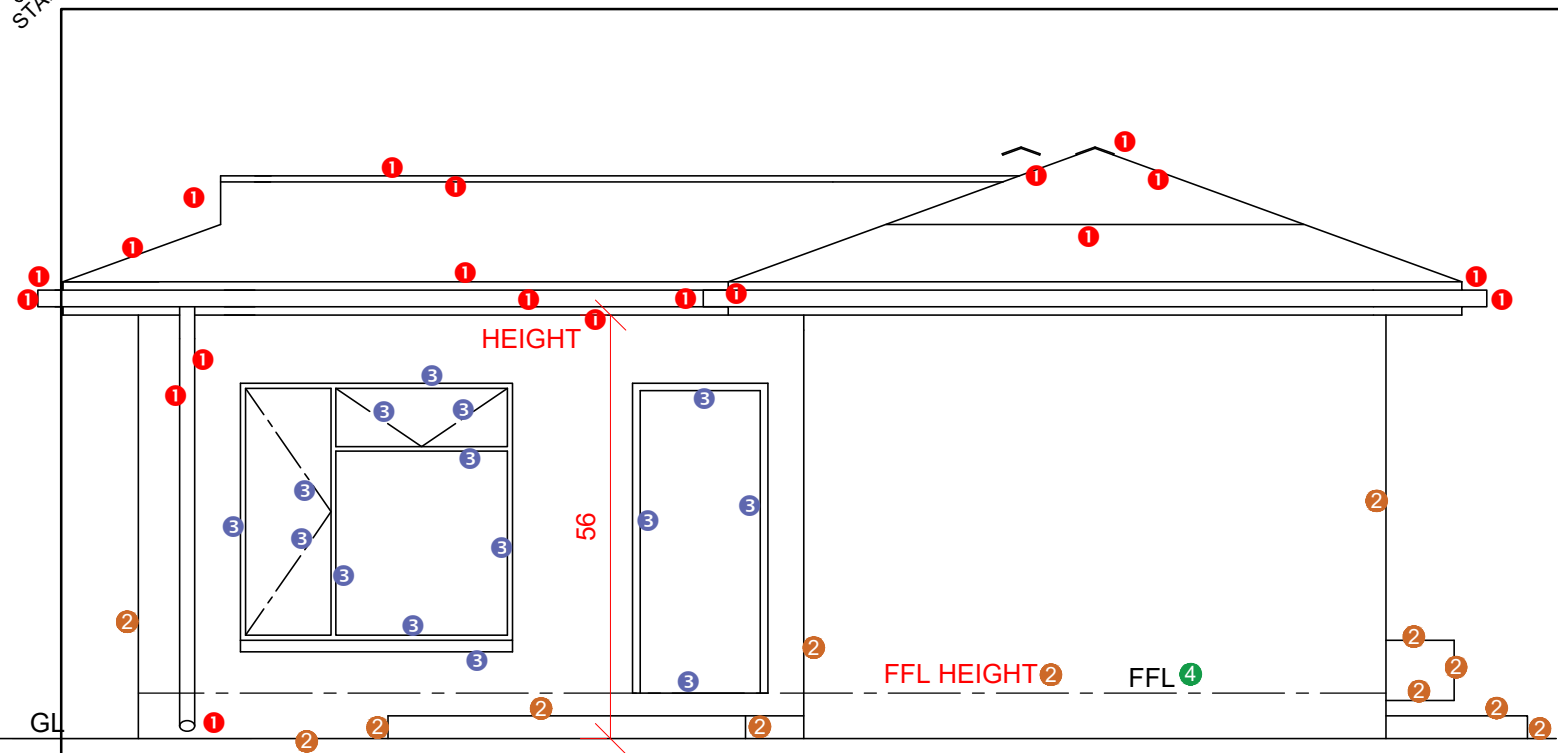
CLASS

4

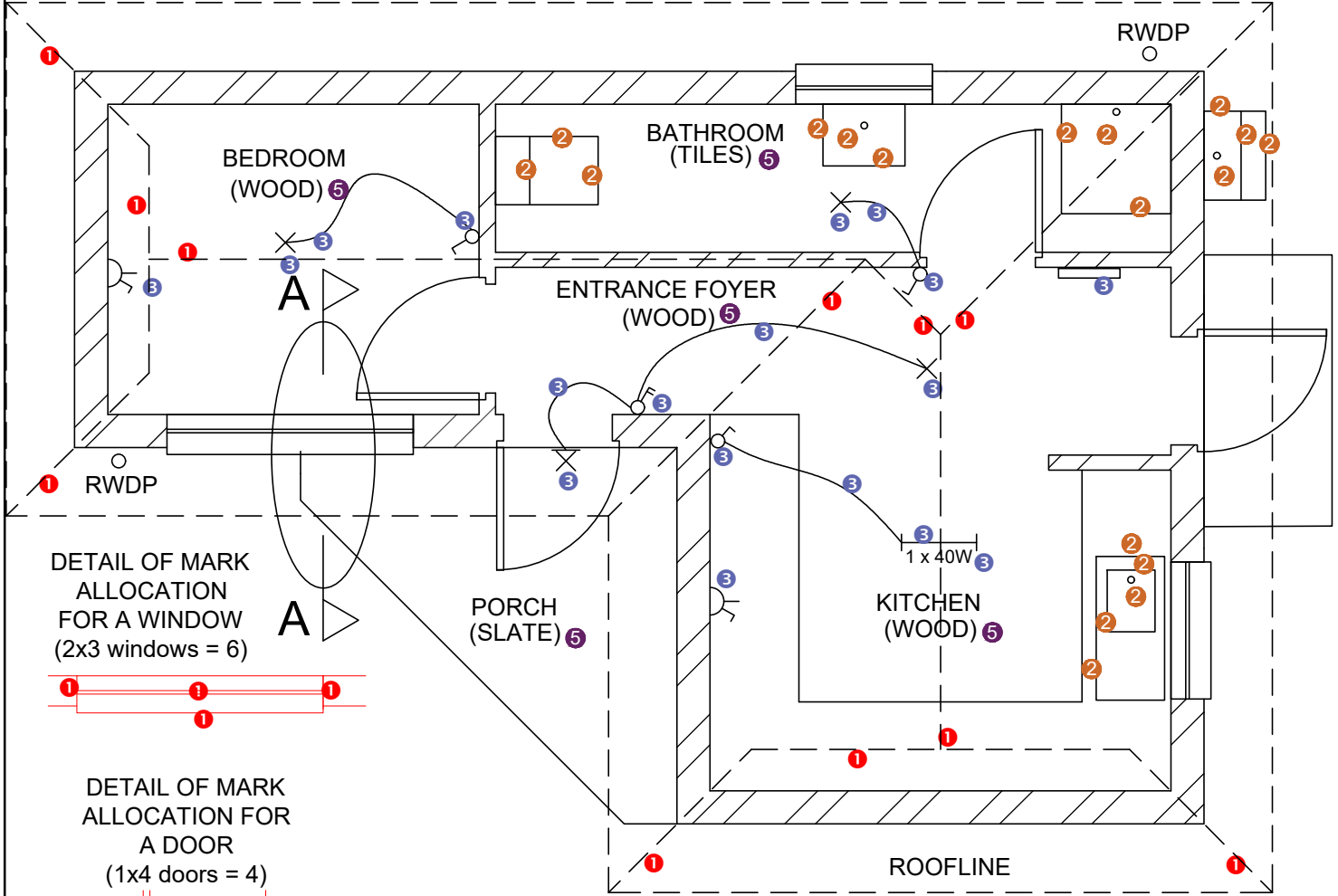
TS

SP

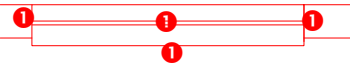
LVP



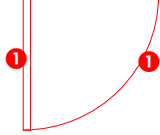
WEST ELEVATION 4



DETAIL OF MARK ALLOCATION FOR A WINDOW (2x3 windows = 6)



DETAIL OF MARK ALLOCATION FOR A DOOR (1x4 doors = 4)



FLOOR PLAN  
SCALE 1 : 50



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

## 4. HATCHING ALLOCATION

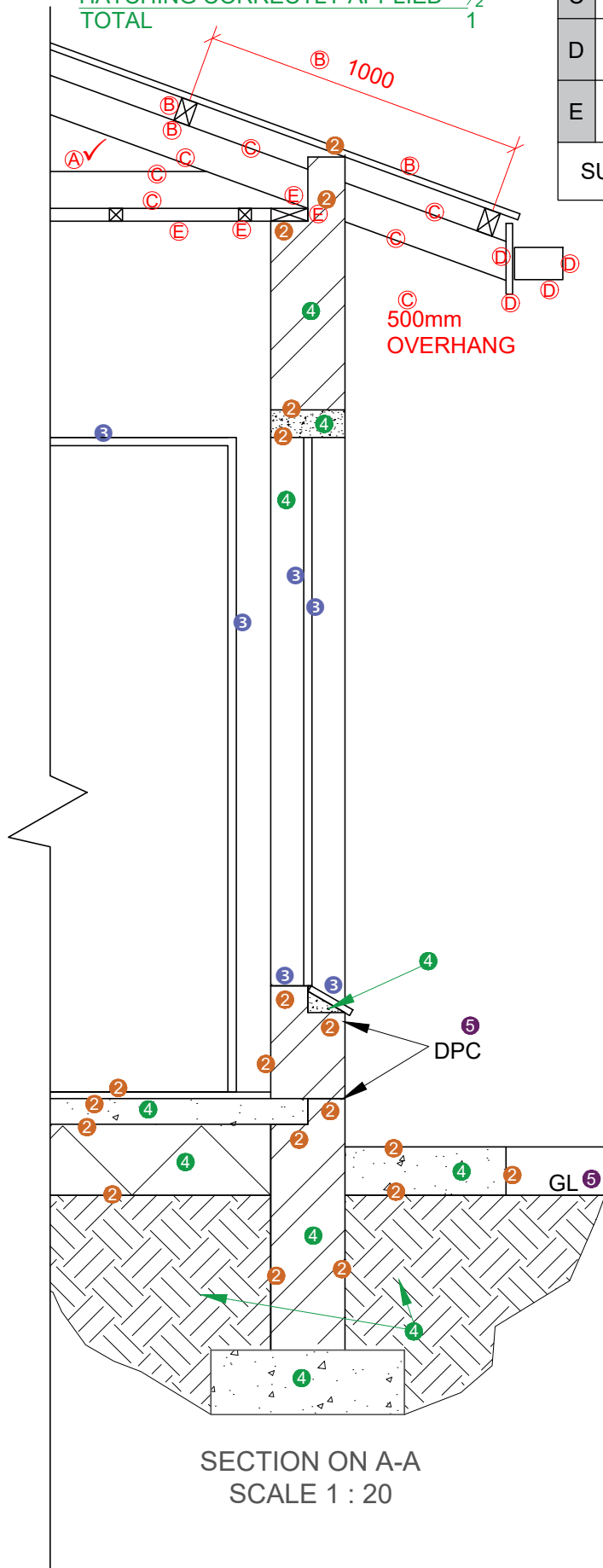
SANS COMPLIANT (TYPE)

HATCHING CORRECTLY APPLIED

TOTAL

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

1



ROOF DETAIL				FOR OFFICIAL USE ONLY	
A	ROOF ANGLE	1		INCORRECT SCALE (-2)	
B	ROOF COVER & PURLINS	2		NON-ALIGNMENT OF VIEWS (-2)	
C	RAFTER AND TIE BEAM	3 $\frac{1}{2}$		VIEWS ROTATED (-2)	
D	FASCIA, GUTTER & RWDP	2		SECTION VIEWED INCORRECTLY (-2)	
E	BRANDERING, WALL PLATE & CEILING	2		INCORRECT LETTERING (-1)	
SUBTOTAL		10 $\frac{1}{2}$		BREAK LINE (-1)	

## CONVERSION TABLE

0.5	1
1.0	1.5
1.5	2
2.0	3
2.5	4
3.0	5
3.5	5
4.0	6
4.5	7
5.0	8
5.5	8.5
6.0	9
6.5	10
7.0	11
7.5	12
8.0	12
8.5	13
9.0	14
9.5	15
10	15.5

## ASSESSMENT CRITERIA

## FLOOR PLAN

		POSSIBLE	OBTAINED
1	DOORS + WINDOWS + ROOF LINE	15 $\frac{1}{2}$	
2	ALL FIXTURES	9	
3	ELECTRICAL	9	
4	HATCHING	3	
5	LABELS	2 $\frac{1}{2}$	
SUBTOTAL		39	

## WEST ELEVATION

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

## DETAILED SECTION A-A

1	ROOF DETAIL	10 $\frac{1}{2}$	
2	FOUNDATION + WALL + DOOR + FIXTURE	9 $\frac{1}{2}$	
3	WINDOW & DOOR	3	
4	HATCHING	6	
5	LABELS	1	
SUBTOTAL		30	
PENALTIES (-)			
TOTAL		94	

NAME AND SURNAME

CLASS