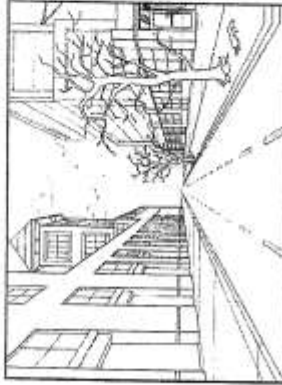


HILLCREST HIGH SCHOOL
ENGINEERING GRAPHICS AND DESIGN EXAM
TRIALS EXAM



GRADE 12
 2018
 PAPER 1

TIME: 3 hours

Examiner: Mrs Tonkin

MARKS: 197

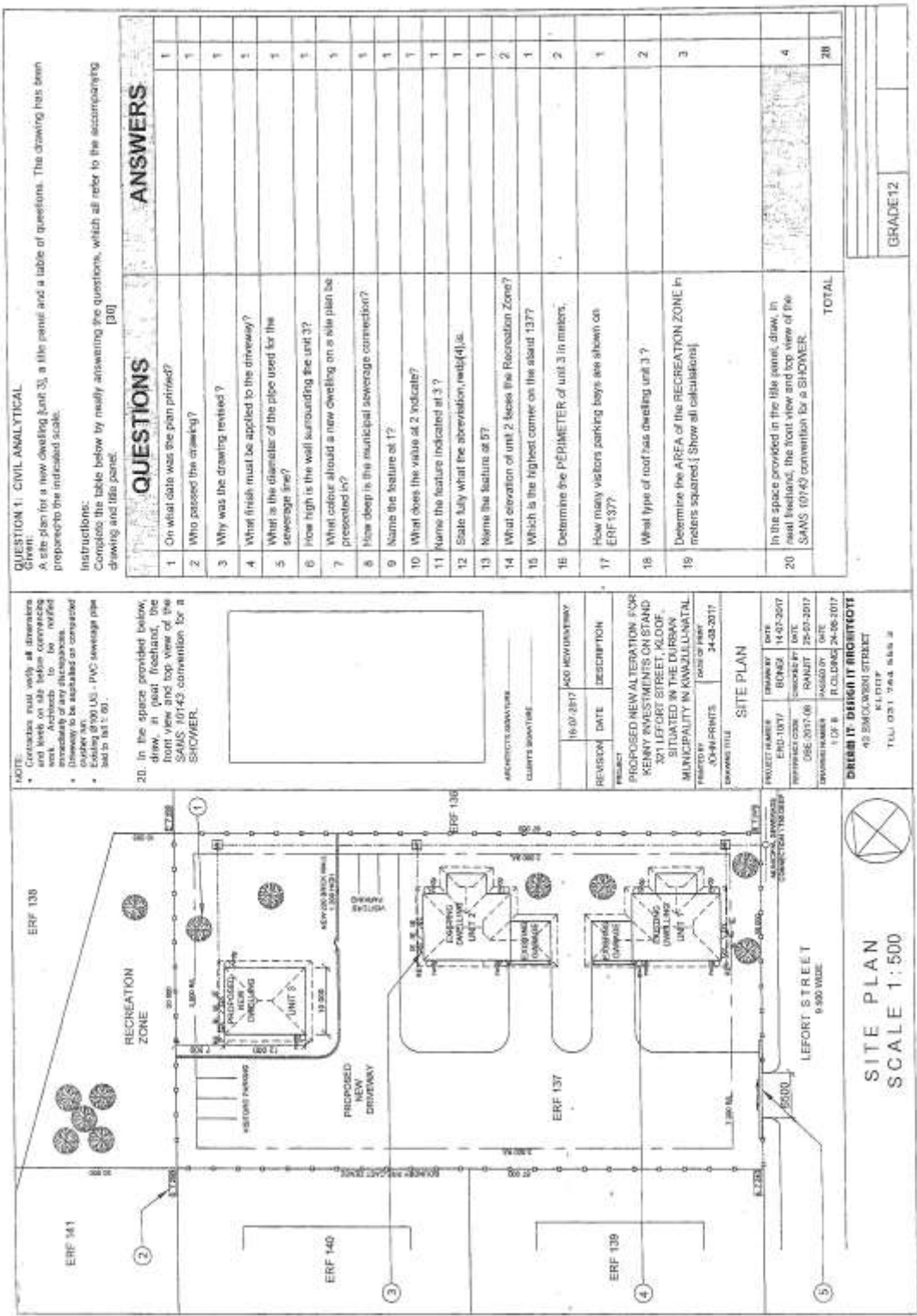
Moderator: Mr Victor

NB: READ THE INTRUCTIONS

1. This paper consists of 6 pages including the cover page and 4 questions.
2. Answer **ALL** questions.
3. Take note of the mark allocation in each question.
4. The questions must be answered on the answer sheets provided.
5. All the answer sheets must be **re-stapled in NUMERICAL** sequence and handed in irrespective of whether the question was attempted or not.
6. Time management is essential in order to complete all the questions.
7. Print your Name in the block provided on **EVERY** answer sheet.
8. All answers must be drawn accurately and neatly.
9. Any details or dimensions not given must be assumed in good proportion.

QUESTION	SECTION	MARK	MODERATE	MAXIMUM
1	CIVIL ANALYTICAL			28
2	INTERPENETRATION			37
3	PERSPECTIVE			39
4	CIVIL DRAWING			93
TOTAL				197
SYMBOL				100

NAME:
 TEACHER:



NOTE:

- Contractors must verify all dimensions and levels on site before commencing work.
- Architects to be notified immediately if any discrepancies are discovered.
- Drainway to be installed as completed over the top.
- Existing 8000 UG - PVC leachage pipe to be replaced with 100mm.

20. In the space provided below, draw, in neat handwriting, the front view and top view of the SANS 10143 convention for a SHOWER.

ARCHITECT'S SIGNATURE: _____
 CLIENT'S SIGNATURE: _____

REVISION	DATE	DESCRIPTION
16/07/2017	16/07/2017	ISSUE FOR PERMIT

PROJECT NUMBER	DATE
ERF-1017	14/07/2017
REFERENCE CODE	ISSUED BY
DBE 2017-08	RAHULT
DRAWING NUMBER	ISSUED BY
1 OF 8	R. CLORACK

DESIGN IT - DESIGN IT ARCHITECTS
 42 SMOULDRONI STREET
 KLUIF
 TEL: 021 764 5653

SITE PLAN
 SCALE 1:500

QUESTION 1: CIVIL ANALYTICAL
 Given:
 A site plan for a new dwelling (unit 3), a title panel and a table of questions. The drawing has been prepared to the indicated scale.

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

QUESTIONS	ANSWERS
1 On what date was the plan printed?	1
2 Who passed the drawing?	1
3 Why was the drawing revised?	1
4 What finish must be applied to the driveway?	1
5 What is the diameter of the pipe used for the sewerage line?	1
6 How high is the wall surrounding the unit?	1
7 What colour should a new dwelling on a site plan be presented in?	1
8 How deep is the municipal sewerage connection?	1
9 Name the feature at 1?	1
10 What does the value at 2 indicate?	1
11 Name the feature indicated at 3?	1
12 State fully what the abbreviation, wet/d(d), is.	1
13 Name the feature at 4?	1
14 What elevation of unit 2 faces the Recreation Zone?	2
15 Which is the highest corner on the stand 137?	1
16 Determine the PERIMETER of unit 3 in meters.	2
17 How many visitors parking bays are shown on ERF 137?	1
18 What type of roof has dwelling unit 3?	2
19 Determine the AREA of the RECREATION ZONE in meters squared. (Show all calculations)	3
20 In the space provided in the title panel, draw, in neat handwriting, the front view and top view of the SANS 10143 convention for a SHOWER.	4
TOTAL	20

GRADE 12

QUESTION 2: INTERPENETRATION AND DEVELOPMENT

Given:

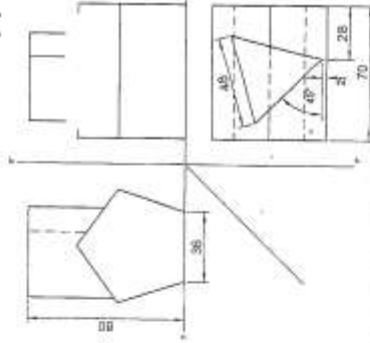
- The incomplete front view, top view and right view of a right regular equilateral triangular prism that has been chopped so fit around a right regular pentagonal prism. The axes of both solids lie in a common vertical plane.

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 lines of interpenetration.
- 2.4 Develop the surfaces of the triangular prism.

Show ALL hidden data and fast lines. [37]



ASSESSMENT CRITERIA	
1	TOP VIEW 8½
2	RIGHT VIEW 7
3	FRONT VIEW 14
4	DEVELOPMENT 7½
TOTAL	
37	

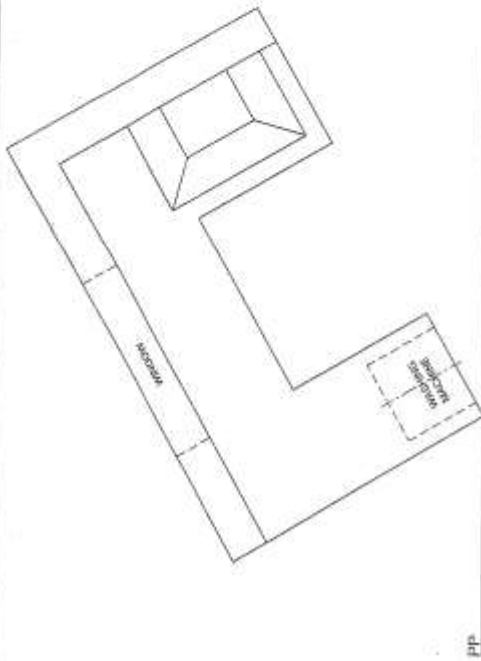
GRADE 12

QUESTION 3: PERSPECTIVE

Given:
 Two views showing the interior of a kitchen 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.

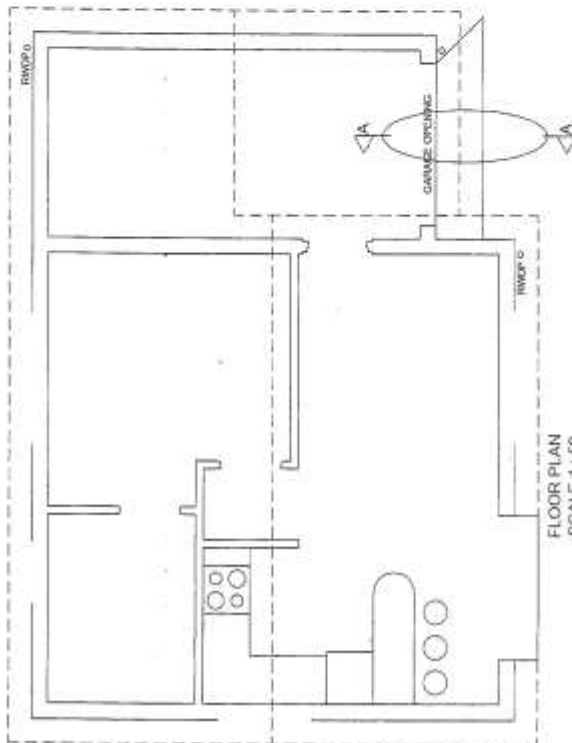
- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL necessary construction.
- Show the wall thickness of the window.
- Show the depth of the washing machine drum.
- NO hidden detail is required. [38]



ASSESSMENT CRITERIA			
1	CONSTRUCTION - VPS	6	
2	WALLS - CURVED	17½	
3	EXTRACTOR - CIRCLES	10½	
TOTAL		39	

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

ASSESSMENT CRITERIA	
FLOOR PLAN	
1	DOORS - WINDOW 54
2	ELECTRICAL 11
3	FURNITURE 8
4	HATCHES 4
5	LABELS 5
SUBTOTAL 42	
SOUTH ELEVATION	
1	ROOF 5 1/2
2	WALLS - WINDOW 7
3	DOOR - WINDOW 50
4	LABELS 1
SUBTOTAL 23 1/2	
DETAILED SECTION	
1	ROOF 11
2	CONCRETE - WALLS - SLAB 7
3	ROOF - ROOF 4
4	HATCHES 5
5	LABELS 1
SUBTOTAL 27 1/2	
TOTAL 93	
PENALTIES (✓)	
GRAND TOTAL	



SECTION A-A
SCALE 1 : 20

FLOOR PLAN
SCALE 1 : 50