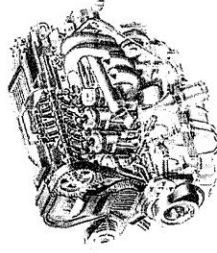
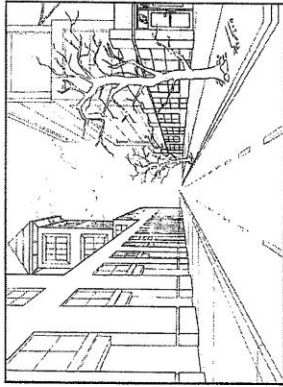


HILLCREST HIGH SCHOOL

ENGINEERING GRAPHICS AND DESIGN EXAM



NOVEMBER EXAM



GRADE 11
2018
PAPER 1

TIME: 3 hours

Examiner: Mrs Tonkin

MARKS: 200

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			34
2	SOLID GEOMETRY			34
3	PERSPECTIVE			47
4	CIVIL DRAWING			85
TOTAL				200
SYMBOL				100

NAME:
TEACHER:

QUESTION 2: SOLID GEOMETRY

Given:

- The top view of a right regular pentagonal prism.
- The auxiliary view.
- The position of the top view on the answer sheet.

Specifications

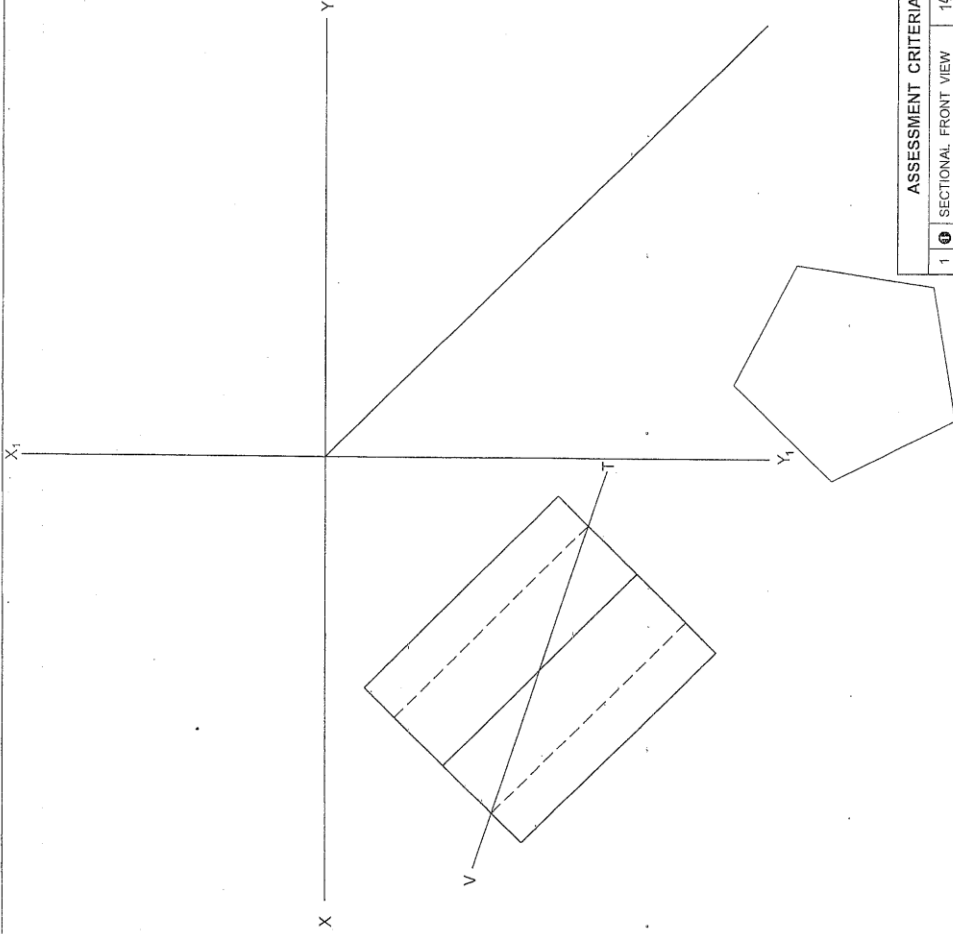
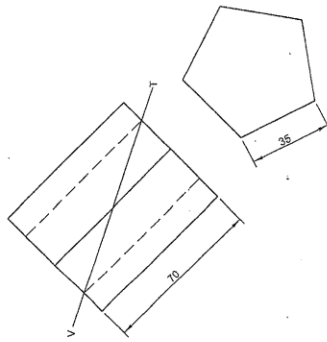
The axis height of the prism is 70mm. The solid is cut by a cutting plane VT as shown.

Instructions:

Draw to scale 1:1, the following views of the solids:

- 2.1. A sectional front view on cutting plane VT.
- 2.2. An outside left view.
- 2.3. The true shape of the section surface.

- Show ALL necessary construction and projection.
- Show ALL hidden detail.



ASSESSMENT CRITERIA	
1	SECTIONAL FRONT VIEW 14
2	OUTSIDE LEFT VIEW 13
3	TRUE SHAPE 7
TOTAL 34	

NAME : _____ GRADE _____

QUESTION THREE : TWO POINT PERSPECTIVE

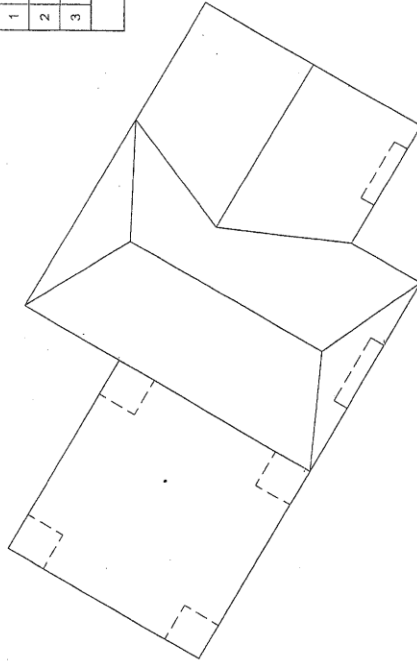
GIVEN:
 Three views of a dwelling. The information needed to draw a two-point perspective drawing.

PP – Picture plane
 HL – Horizon line
 GL – Ground line
 SP – Station point

INSTRUCTIONS:

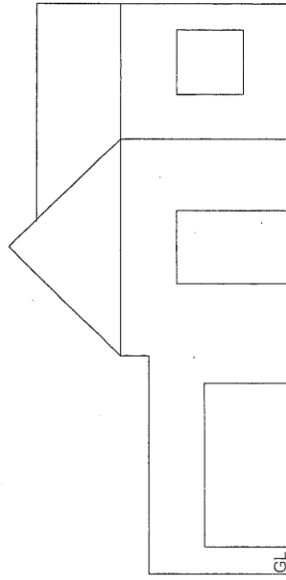
Complete the perspective drawing.

- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL necessary construction.
- Show the wall thickness at the windows and door.
- NO hidden or interior detail is required.
- Label the vanishing points RVP and LVP.



PP

HL



GL

SP

GL

ASSESSMENT CRITERIA		
1	CONSTRUCTION + VPs	8
2	ROOF	14
3	WALLS, WINDOW & DOOR	25
TOTAL		47

NAME :

GRADE

QUESTION FOUR : CIVIL DRAWING

GIVEN:

- The incomplete floor plan of a house showing the walls and the position of the windows and doors.
- The incomplete foundation and wall detail.
- A table of electrical symbols
- A door and window schedule
- A table of plumbing fixtures

INSTRUCTIONS:

- Answer this question on page 6.
- Using the given starting point draw in first angle orthographic projection and to a scale of 1 : 50 the following views of the dwelling:
 - 4.1. The complete floor plan.
 - 4.2. A sectional elevation on cutting plane AA, Use a scale of 1 : 20 to draw this view.
 - 4.3. The south west elevation.
- All drawing must comply with the guidelines and conventions contained in the SANS 10400 document.

SPECIFICATIONS :

THE FLOOR PLAN

Add the following features to your drawing:

- All doors and windows.
- All fixtures as indicated. All electrical fittings as indicated by the numbers on the given table.
- All hatching detail.
- Include all room designation and a floor covering of your choice.

THE SOUTH WEST ELEVATION

Show the following features on your drawing.

- The outside walls.
- The window and door detail.
- The finished floor level and ceiling height.

THE SECTIONAL ELEVATION

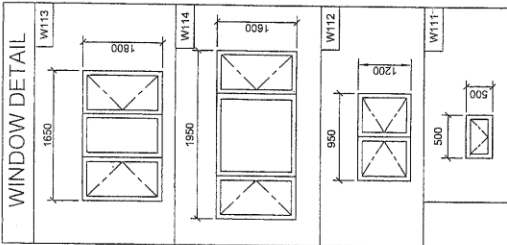
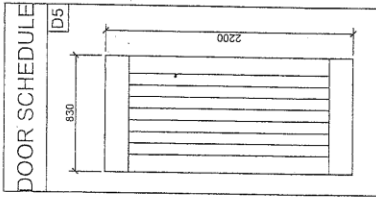
Show the following features on your drawing:

- The complete foundation and walls.
- The window detail with a double lintel above.
- All internal walls.
- All hatching detail.

Note:

- Using correct abbreviations to show and label the following features in the correct views:
 - ground level, finished floor level and damp proof course.
- Label all elevations.
- You may draw the substructure-hatching freehand.
- All windows to be positioned in the spaces provided.

PLUMBING FIXTURES	
PLAN	FIXTURES
	ACRYLIC SHOWER BASE
	WATER CLOSET
	WASH BASIN
	KITCHEN SINK
	BATH TUB
	BUILT IN CUPBOARD



FEATURES

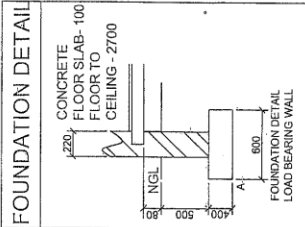
D - DOOR
SD - SLIDING DOOR
W1 - W4 - WINDOWS

FIXTURES

WC - WATER CLOSET
S - SINK
WB - WASH HAND BASIN
SH - SHOWER
B - BATH
BIC - BUILT IN CUPBOARD

ELECTRICAL FITTINGS

1. SINGLE POLE SWITCH
2. TWO POLE SWITCH
3. 3 X 40W FLUORESCENT TUBES
4. CEILING LIGHT
5. OUTSIDE LIGHT
6. SWITCHED SOCKET OUTLET



ELECTRICAL LEGEND

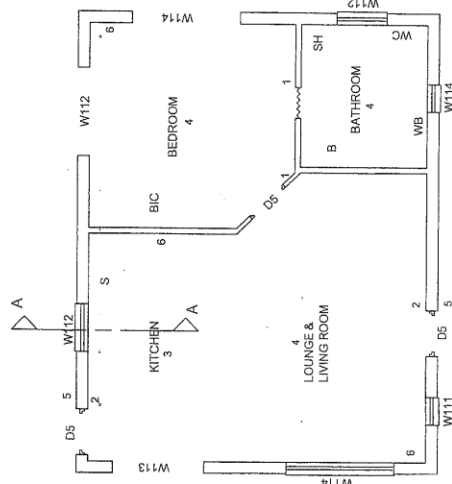
SWITCHES

LIGHTS

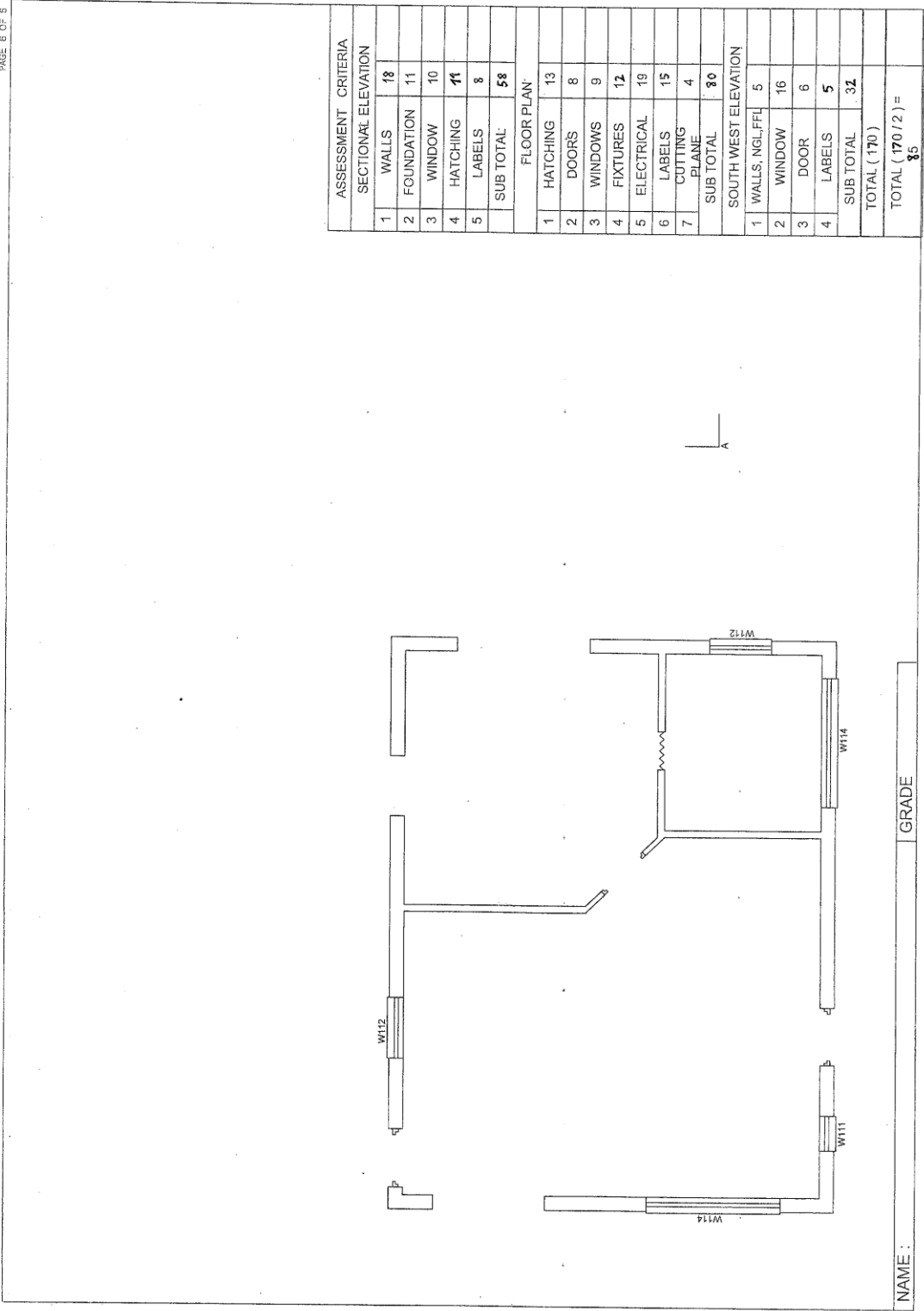
3 X 40W OR

2 X 40W OR

SOCKET OUTLET



SCHEMATIC FLOORPLAN



ASSESSMENT CRITERIA	
SECTIONAL ELEVATION	
1	WALLS 18
2	FOUNDATION 11
3	WINDOW 10
4	HATCHING 11
5	LABELS 8
	SUB TOTAL 58
FLOOR PLAN	
1	HATCHING 13
2	DOORS 8
3	WINDOWS 9
4	FIXTURES 12
5	ELECTRICAL 19
6	LABELS 15
7	CUTTING PLANE 4
	SUB TOTAL 80
SOUTH WEST ELEVATION	
1	WALLS, INCL. FFL 5
2	WINDOW 16
3	DOOR 6
4	LABELS 5
	SUB TOTAL 32
TOTAL (170) =	
TOTAL (170/2) = 85	

NAME: _____ GRADE _____