



# education

Department:  
Education  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P1**

**NOVEMBER 2008**

**MARKS: 100**

**TIME: 3 hours**

This question paper consists of 6 pages.

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## INSTRUCTIONS AND INFORMATION

1. The question paper consists of FOUR questions.
2. Answer ALL the questions.
3. All drawings are in first-angle orthographic projection unless otherwise stated.
4. All drawings must be drawn to scale 1:1, unless otherwise stated.
5. The questions must be answered on the answer sheets provided.
6. All the answer sheets must be re-stapled in numerical sequence and handed in irrespective of whether the question was attempted or not.
7. Time management is essential in order to complete all the questions.
8. Print your examination number in the block provided on every answer sheet.
9. All answers must be drawn accurately and neatly.
10. Any details or dimensions not given must be assumed in good proportion.

FOR OFFICIAL USE ONLY			
	MODERATED MARK		
1			
2			
3			
4			
TOTAL			
	<b>2</b>	<b>0</b>	<b>0</b>

FINAL CONVERTED MARK	CHECKED BY
<b>100</b>	

COMPLETE THE FOLLOWING:
EXAMINATION NUMBER
EXAMINATION NUMBER
EXAMINATION CENTRE
EXAMINATION CENTRE

Please turn over



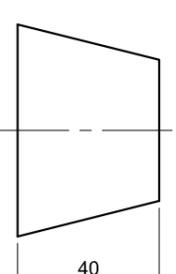
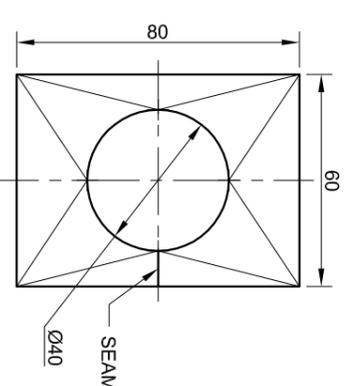


**QUESTION 2: DEVELOPMENT**

**Given:**  
The front view and top view of a rectangle-to-round transition piece.

- Instructions:**
- Draw the given views of the transition piece.
  - Develop the surface of the transition piece.
  - Show ALL necessary construction and fold lines.

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**ASSESSMENT CRITERIA**

FRONT VIEW	2
TOP VIEW	3
CENTRE LINES	2
TOP VIEW DIVISIONS	1
TRUE LENGTH x4	6
DEVELOPMENT	21
<b>TOTAL</b>	<b>35</b>

EXAMINATION NUMBER	
EXAMINATION NUMBER	3



**QUESTION 3 : PERSPECTIVE**

**Given:**

Two views of a structure and the information needed to draw a two-point perspective drawing.

- PP - Picture Plane
- HL - Horizon Line
- GL - Ground Line
- SP - Station Point

**Instructions:**

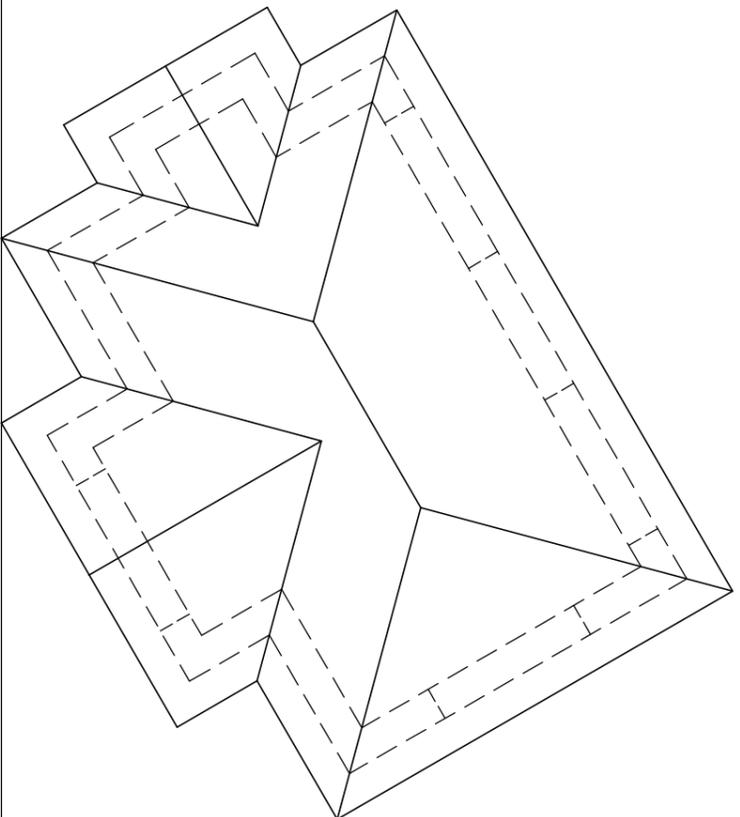
- Locate and label the vanishing points.
- Complete the perspective drawing.
- Show ALL necessary construction.
- Show depth and internal features.

**NOTE:**

- Align drawing sheet with the horizon line (HL).
- NO hidden detail is required.

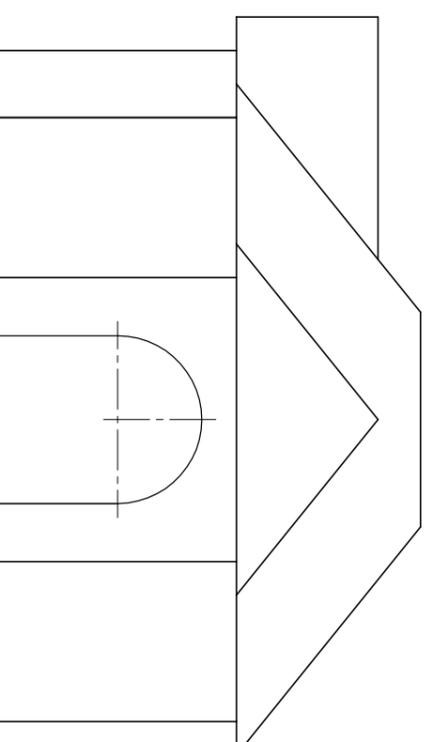
[43]

PP



HL

GL



ASSESSMENT CRITERIA	
CONSTRUCTION	6
LABEL THE VPs	2
CIRCLE CONSTRUCTION	3
ROOF	10
WALLS, DOOR	22
<b>TOTAL</b>	<b>43</b>

SP

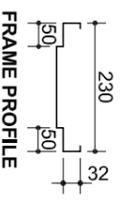
EXAMINATION NUMBER	
EXAMINATION NUMBER	4



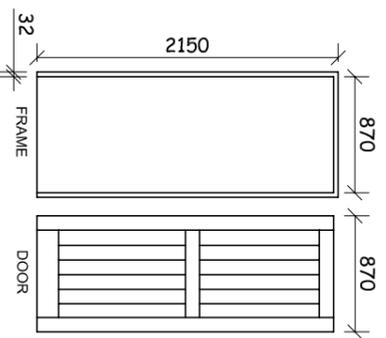
# DOOR AND WINDOW SCHEDULE

PROPOSED NEW TV ROOM ON ERF 329 EAST LONDON	DRAWING NUMBER DOE 2408	<b>DOOR DEN</b> 7 SIDE ROAD EAST LONDON 043 708 5555
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**DOOR FRAME**  
STANDARD, EXTERNAL,  
MILD STEEL

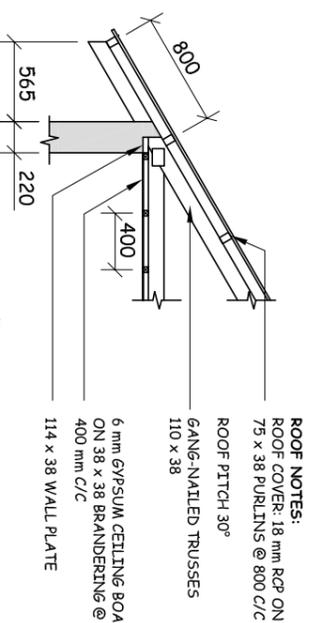
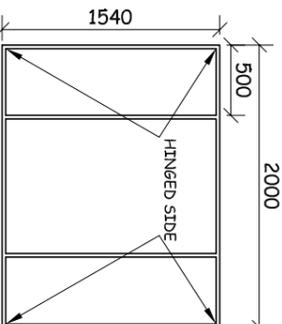


**DOOR**  
H/W FRAMED, LEDGED  
AND BATTENED  
IRONMONGERY  
1 PAIR 75 mm BOLTS,  
HINGES  
TWO-LEVER LOCKSET



**WINDOW**  
STANDARD, MILD STEEL,  
ND 511

**GLAZING**  
3 mm CLEAR GLASS

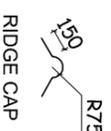


**ROOF NOTES:**  
ROOF COVER: 18 mm RCP ON  
75 x 38 PURLINS @ 800 C/C

ROOF PITCH 30°  
GANG-NAILLED TRUSSES  
110 x 38

6 mm GYPSUM CEILING BOARD  
ON 38 x 38 BRANDING @  
400 mm C/C

114 x 38 WALL PLATE

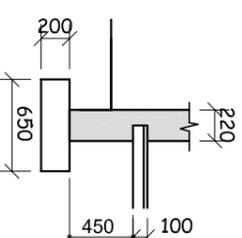


RIDGE CAP

EQUAL SPACE

INCOMPLETE ROOF DETAIL

INCOMPLETE FOUNDATION DETAIL



GROUND LEVEL

DOOR AND WINDOW HEAD HEIGHT

CARPET

FLOOR LEVEL

STILL TILE



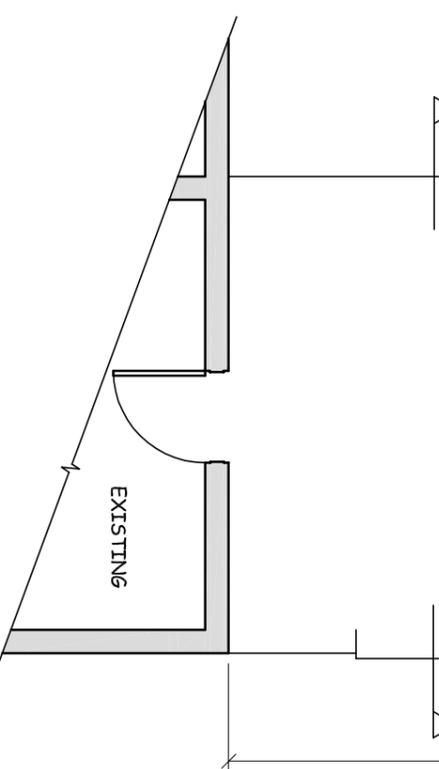
SWITCHED SOCKET OUTLET

DOOR OPENING

A

ND511 WINDOW

A



SCHEMATIC PLAN  
AND

SCHEMATIC SECTIONAL ELEVATION

LIGHTS	SWITCHES
OR	OR
OR	OR
2 X 40 W	SOCKET OUTLET

## QUESTION 4: CIVIL DRAWING

**Given:**

- A schematic floor plan and schematic sectional elevation of the outer perimeter of a **proposed new TV room** to an existing dwelling, and the position of all the features.
- A door and incomplete window schedule.
- Sketches of the roof and incomplete foundation detail.
- An electrical legend.

**Instructions:**

- Answer this question on ANSWER SHEET 4 on page 6.
- Draw, to scale 1:50, the complete floor plan and complete sectional elevation to the given specifications.
- Attach the drawing of the **proposed new TV room** to the given information on ANSWER SHEET 4.

**SPECIFICATIONS:**

THE FLOOR PLAN

**Add the following features to the floor plan:**

- ALL the walls with hatching detail
- The door and the window detail
- ONE light outside the room and near to the door and ONE light in the centre of the ceiling of the **proposed new TV room**
- A separate switch for each light
- ONE switched socket outlet in the middle of the indicated wall
- The cutting plane. Label the plane A-A
- Label the floor plan and include the scale

A SECTIONAL ELEVATION

**Add the following features to the sectional elevation:**

- The complete foundation, wall, floor slab and roof detail
- The door and complete window detail
- ALL necessary hatching
- Label the sectional elevation: SECTIONAL ELEVATION A-A

**NOTE:**

- Label ONLY the following features and on the correct view: natural ground level, damp proof course, proposed room designation and floor finish.
- ALL substructure hatching may be done in freehand.
- ALL drawing must comply with the guidelines contained in the SABS 0143.

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**TERMINOLOGY**

*Schematic diagram:* a diagram that shows the main features or relationships but not the details.

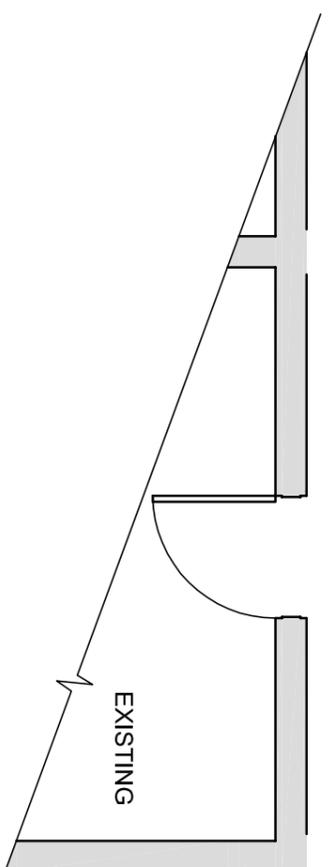


STAPLE

**ANSWER SHEET 4**

**ASSESSMENT CRITERIA**

	TOTAL	
	POSSIBLE	OBTAINED
<b>FLOOR PLAN</b>		
1 OUTLINE	5	
2 WINDOW & DOOR	7	
3 HATCHING	3	
4 LIGHTS & SWITCH & SOCKET OUTLET	8	
5 LABELS & CUTTING PLANE	8	
6 JOIN	1	
<b>SECTIONAL ELEVATION</b>		
7 FOUNDATION, SLAB & WALL	12	
8 HATCHING	9	
9 DOOR	3	
10 WINDOW	7	
11 ROOF TRUSS, CAP, GANGWAYS & COVER	17	
12 CEILING, PURLINS & BRANDING	12	
13 LABELS	5	
<b>TOTAL 97</b>		



EXAMINATION NUMBER	
EXAMINATION NUMBER	6