



# education

Department:  
Education  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P1**  
**EXEMPLAR 2008**

MARKS: 100

TIME: 3 hours

This question paper consists of 6 pages.

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## INSTRUCTIONS AND INFORMATION

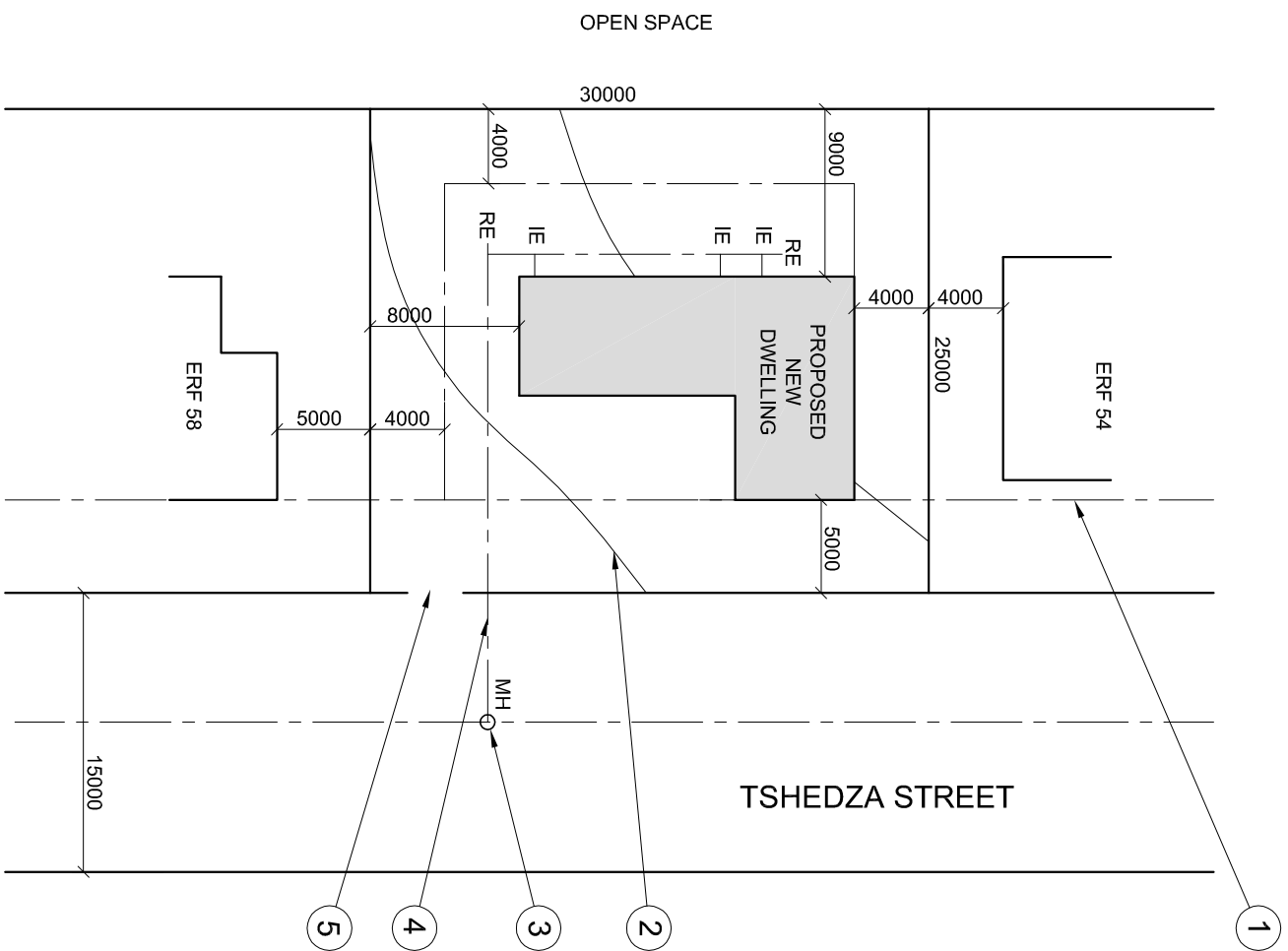
1. The question paper consists of FOUR questions.
2. Answer ALL the questions.
3. All drawings are in first-angle orthographic projection unless otherwise stated.
4. All drawings must be drawn to scale 1:1, unless otherwise stated.
5. The questions must be answered on the answer sheets provided.
6. All the answer sheets must be re-stapled in numerical sequence and handed in irrespective of whether the question was attempted or not.
7. Careful 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			
	2	0	0

FINAL CONVERTED MARK	CHECKED BY
100	

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

Please turn over



SITE PLAN  
SCALE 1:200

**QUESTIONS**

**ANSWERS**

QUESTIONS	ANSWERS
1 What is the scale of the drawing?	1
2 What is the name of the street?	1
3 What is the erf number of the adjacent property on the south side?	1
4 What is on the property behind the proposed dwelling?	2
5 What colour must a proposed new dwelling be on a site plan?	1
6 What is the erf number of the proposed dwelling?	1
7 What is the width of the street in metres?	1
8 What do the letters IE stand for?	1
9 What do the letters RE stand for?	1
10 What is the feature at 1 called?	1
11 What is the feature at 2 called?	1
12 What is the feature at 3 called?	1
13 What is the feature at 4 called?	1
14 What is the feature at 5 called?	1
15 What is the feature at 6 called?	1
16 What is the distance between the proposed dwelling and the dwelling on erf number 58?	2
17 What is the distance from the boundary line to the building line at the back of the property?	2
18 The side of the house that faces the road will be called the _____ elevation?	1
19 What is the total length of the dwelling in metres?	2
20 What is the total area of the site in m <sup>2</sup> ?	2
<b>TOTAL 25</b>	

**QUESTION 1: ANALYTICAL (CIVIL)**  
**Given:**  
 A table of questions and a site plan of a proposed new dwelling.

**Instructions:**  
 Complete the table below by neatly printing the answers to the questions, which all refer to the accompanying drawing. [25]

EXAMINATION NUMBER

EXAMINATION NUMBER **2**

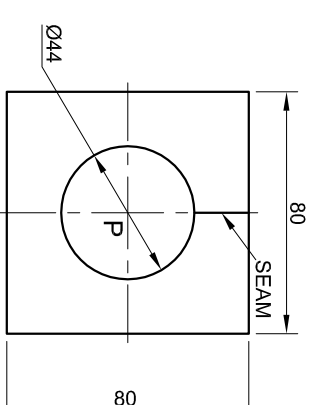
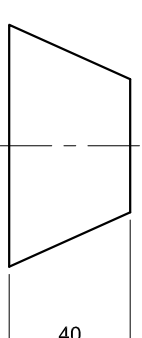


**QUESTION 2: DEVELOPMENT**

**Given:**  
The front view and top view of a square 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.

[35]



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**ASSESSMENT CRITERIA**

FRONT VIEW	= 2
TOP VIEW	= 3
CIRCLE DIVISION	= 2
TRUE LENGTH x2	= 6
DEVELOPMENT	= 21
CENTRE LINES	= 1
<b>TOTAL</b>	<b>= 35</b>

EXAMINATION NUMBER	
EXAMINATION NUMBER	3



**QUESTION 3: PERSPECTIVE**

**Given:**

Two views of a house showing the position of the doors and a window on the walls, with all the necessary information needed to draw a two-point perspective drawing.

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

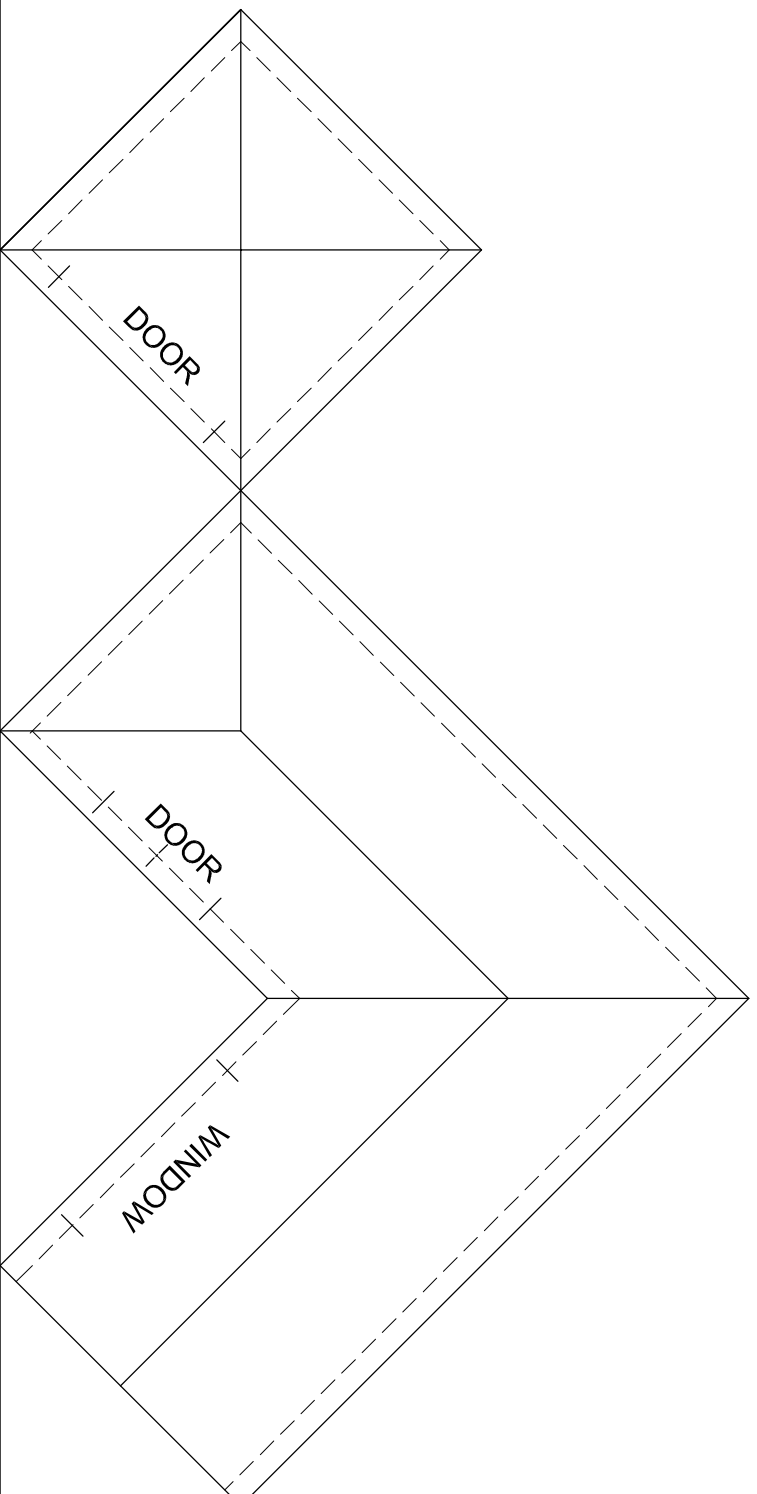
**Instructions:**

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

**Note:**

- The depth of the doors and window is not required.
- NO hidden detail is required.

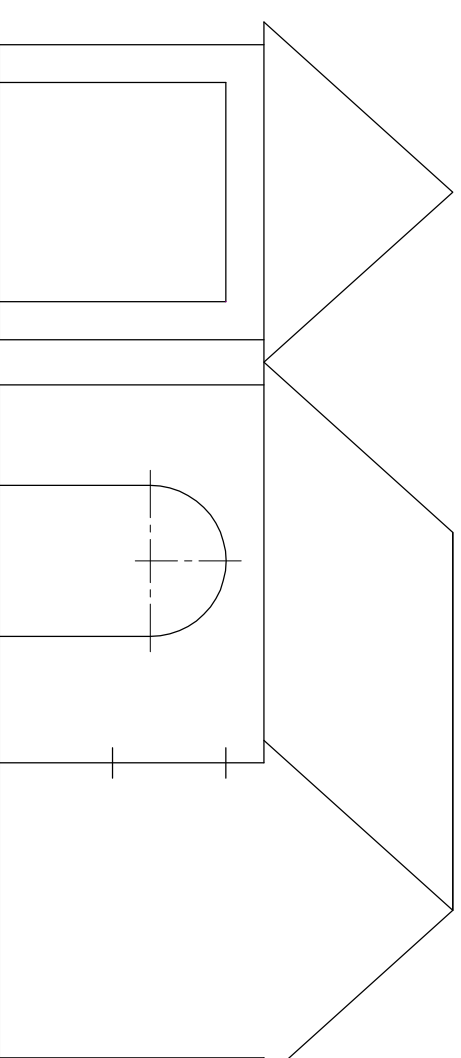
[45]



PP \_\_\_\_\_

HL \_\_\_\_\_

GL \_\_\_\_\_



ASSESSMENT CRITERIA	
PROJECTION	= 10
CIRCLE CONSTRUCTION	= 3
ROOF	= 11
WALLS, WINDOW, DOORS	= 21
<b>TOTAL</b>	<b>45</b>

+

SP

EXAMINATION NUMBER

EXAMINATION NUMBER

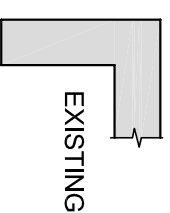
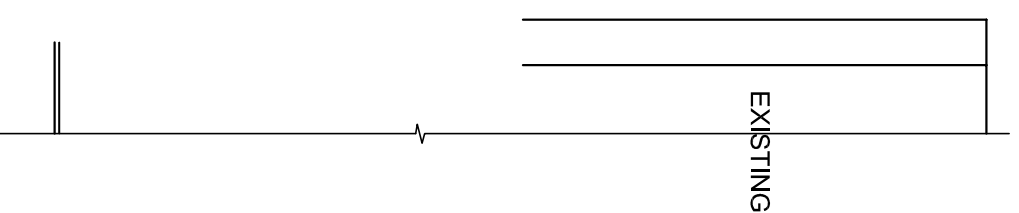
4



ANSWER SHEET 4

ASSESSMENT CRITERIA

	TOTAL	
	POSSIBLE	OBTAINED
<b>FLOOR PLAN</b>		
1. OUTLINE	9	
2. WINDOW & DOOR	9	
3. HATCHING	3	
4. LIGHTS & SWITCH & PLUG POINT	8	
5. LABELS AND CUTTING PLANE	9	
6. REMOVED WALL	2	
<b>SECTIONAL ELEVATION</b>		
7. FOUNDATION	2	
8. WALL & SLAB	8	
9. HATCHING	9	
10. DOOR & WINDOW	13	
11. ROOF & CEILING	17	
12. LABELS	3	
13. REMOVED WALL	3	
<b>TOTAL 95</b>		



EXAMINATION NUMBER	
EXAMINATION NUMBER	5



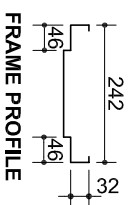
# DOOR SCHEDULE AND WINDOW SCHEDULE

PROPOSED NEW LAUNDRY ON STAND 354 PHOENIX MR K NADDOO	DRAWING NUMBER DOE 1-08	D & W 7 ZIBI ROAD DURBAN 031 708 5555
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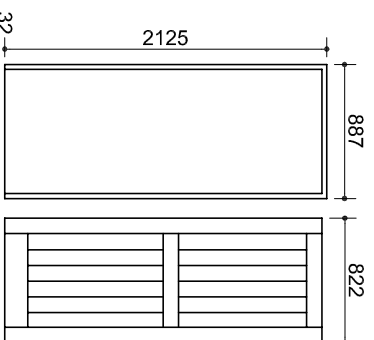
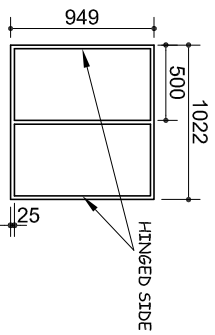
DOOR FRAME STANDARD, EXTERNAL, MILD STEEL

WINDOW STANDARD, MILD STEEL, ND 2

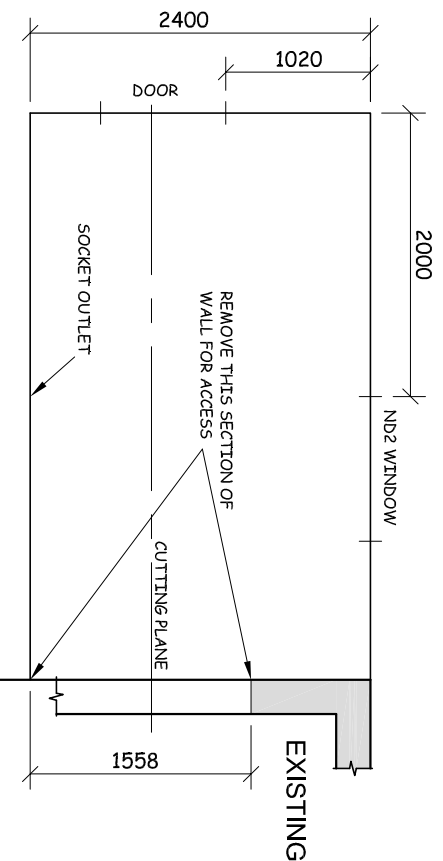
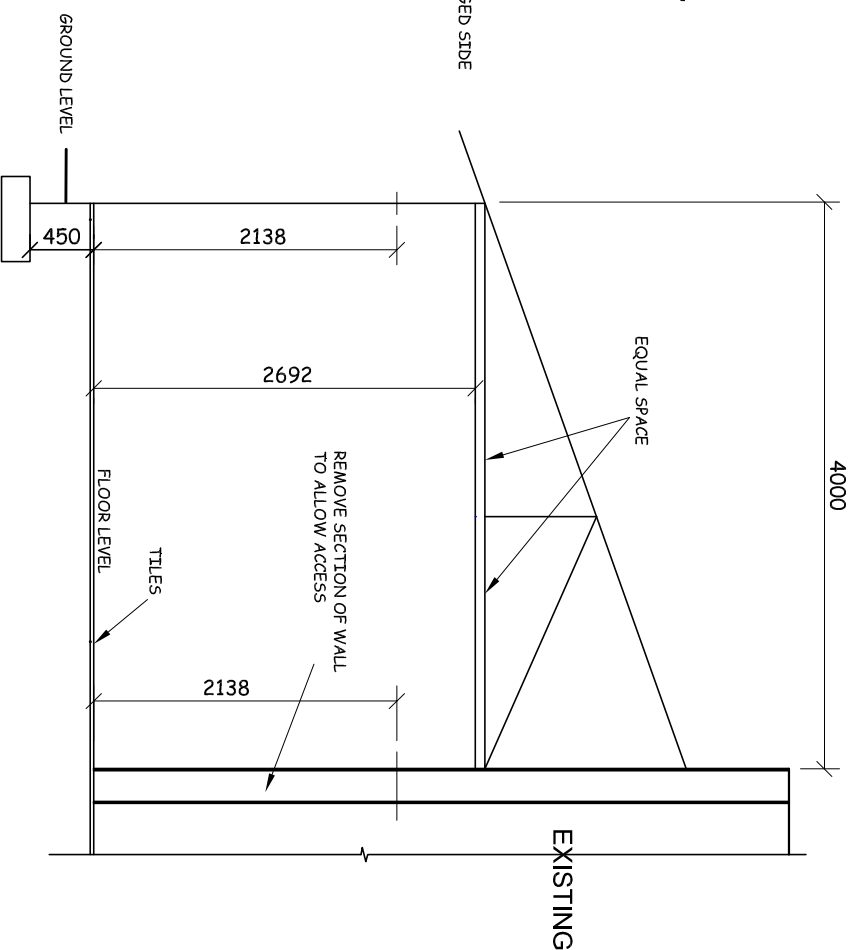
GLAZING 3 mm CLEAR GLASS



DOOR HW FRAMED, LEDGED AND BATTENED IRONMONGERY 1 PAIR 75 mm BOLTS, HINGES TWO-LEVER LOCKSET



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



## QUESTION 4: CIVIL DRAWING

### Given:

- A schematic floor plan and schematic elevation showing the outer perimeter of a **proposed new laundry** to an existing dwelling detailing the positions 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 5.
- Draw, to scale 1:40, the complete floor plan and complete sectional elevation to the given specifications.
- Attach the drawings of the **proposed new laundry** 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
- The removed section of the wall of the existing dwelling
- ONE light outside the door and a single TWO, 40 watt fluorescent tube fitting in the centre of the ceiling of the laundry
- ONE switch for both lights
- 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

#### THE SECTIONAL ELEVATION

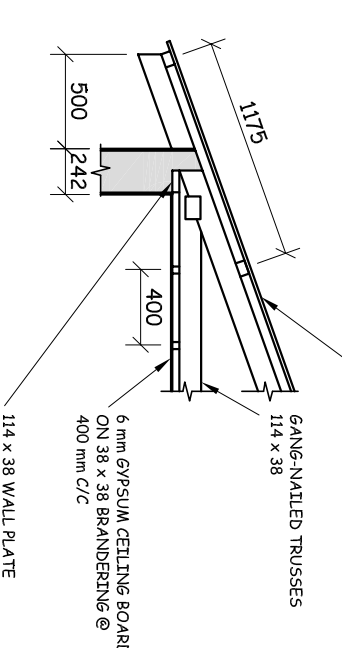
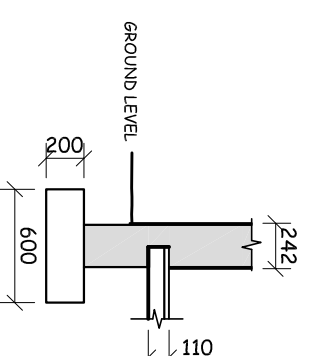
#### Add the following features to the sectional elevation:

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

### Note:

- Label ONLY the following features on the correct view: natural ground level, damp proof course, window code, room designation and floor finish.
- ALL drawing must comply with the guidelines contained in the SABS 0143.

[95]



SCHEMATIC PLAN AND SECTIONAL ELEVATION

INCOMPLETE FOUNDATION DETAIL

INCOMPLETE ROOF DETAIL