

# HILLCREST HIGH SCHOOL NOVEMBER EXAMINATION ENGINEERING, GRAPHICS & DESIGN

GRADE 10  
2016  
PAPER 1

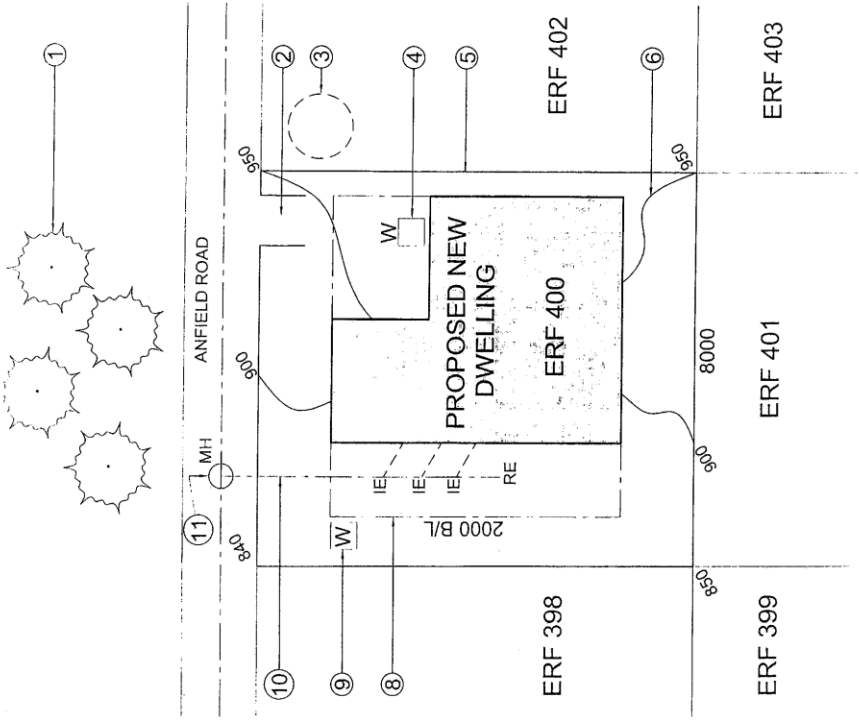
**MARKS: 100    TIME: 2 HOURS**

**INSTRUCTIONS TO CANDIDATES**

1. This question paper consists of 5 pages including the cover page and 4 questions.
2. All questions must be answered.
3. Unless specified otherwise, all questions are in First Angle Orthographic Projection.
4. Unless specified otherwise, all questions are to be completed to a scale of 1:1.
5. All answer sheets must be re-stapled in numerical order, even questions that are not attempted/blank.
6. All construction work must be shown, even if a stencil was used.
7. Print your NAME neatly on each page.
8. Use only the drawing sheets provided.
9. Your drawings should reflect neatness and accuracy.
10. All dimensions or detail not given may be assumed in good proportion.

QUESTION	SECTION	MARK	MODERATE	MAXIMUM
1	CIVIL ANALYTICAL			19
2	GEOMETRIC SOLIDS			23
3	ONE POINT PERSPECTIVE			21
4	CIVIL DRAWING			37
<b>TOTAL</b>				<b>100</b>
<b>SYMBOL</b>				<b>100</b>

NAME



STUDY THE DRAWING AND INFORMATION GIVEN, THEN ANSWER THE QUESTIONS BELOW:

1.1.1. What is the feature at 1 called?	
1.1.2. What is the feature at 2 called?	
1.1.3. What is the feature at 3 called?	
1.1.4. What is the feature at 4 called?	
1.1.5. What is the feature at 5 called?	
1.1.6. What is the feature at 6 called?	
1.1.7. What is the feature at 7 called?	
1.1.8. What is the feature at 8 called?	
1.1.9. What is the feature at 9 called?	
1.1.10. What is the feature at 10 called?	
1.1.11. What is the feature at 11 called?	
1.1.12. On which elevation would you see the bathroom windows?	
1.1.13. How many Rodding Eyes are there on this property?	
1.1.14. What type of drawing is this?	
1.1.15. What lies due north of the proposed new dwelling?	
1.1.16. How many trees were on this drawing before building began?	
1.1.17. What does the abbreviation IE stand for?	
1.1.18. What is the lowest point on this property (measurement)?	
1.1.19. Is this property FLAT or does it SLOPE?	

SCALE 1:500

NAME

ANSWER SHEET 1

PLEASE TURN OVER

**QUESTION 2**

The figure shows the front view and incomplete top view of a right regular hexagonal pyramid. The pyramid is cut by a cutting plane v-t.

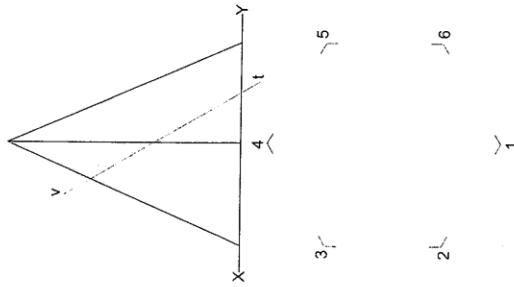
Draw the following:

- 2.1. the complete sectional top view;
- 2.2. the sectional right view;
- 2.3. the true shape (draw on the right hand side of the front view);
- 2.4. show all construction;
- 2.5. marks will be deducted for poor line-work and untidy drawings.

**ASSESSMENT CRITERIA**

You will be assessed on your ability to do the following:

- draw the complete sectional top view 7
- draw the true shape 8
- draw the sectional right view 8
- TOTAL 23**



NAME

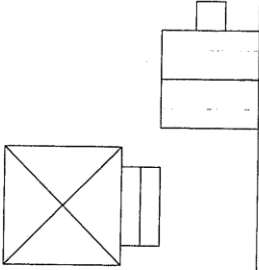
ANSWER SHEET 2

The figure below shows the views of a dwelling.  
Draw a neat ONE POINT PERSPECTIVE drawing of the dwelling.

Show all construction.  
Label the vanishing point.  
Do not show any hidden detail.

**ASSESSMENT CRITERIA**

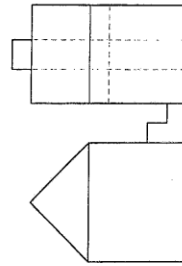
- You will be assessed on your ability to do the following:
- determine the vanishing point 1
  - show all projection 1
  - draw the one point perspective 19



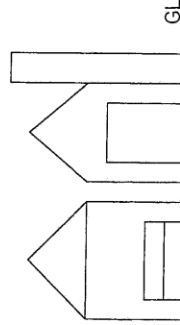
PP

HL

SP +



GL



GL

ANSWER SHEET 3

NAME \_\_\_\_\_

PLEASE TURN OVER

NOVEMBER 2016  
 GRADE 10 P1  
 QUESTION 4  
 37 MARKS  
 CIVIL  
 DRAWING

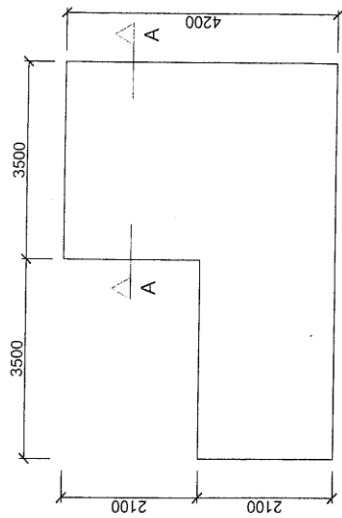
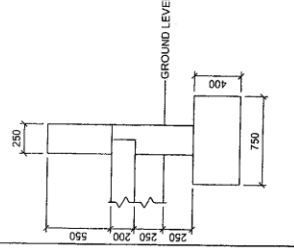
**QUESTION 4**

The incomplete floor plan of a GARDEN COTTAGE is given.  
 Complete the following using the information given:

- 4.1. Complete the floor plan by adding wall thickness and hatching.
- 4.2. Draw the section elevation of the GARDEN COTTAGE as shown on the cutting plane A-A. The foundation blocks, hardcore fill, floor slab, ground level and part of the walls should be included in your drawing.
- 4.3. Print labels in the appropriate position for the ground level and the damp proof course.
- 4.4. Hatch all the sub-structure detail using the correct hatching for each aspect.
- 4.5. Calculate the following:
  - 4.5.1. the total area of the GARDEN COTTAGE in metres (work to TWO decimal places)
  - 4.5.2. the perimeter of the GARDEN COTTAGE in millimetres

Notes:  
 • all drawings must comply with SANS Code of Practice 10143  
 • use a SCALE 1 : 50

**SUB-STRUCTURE DETAIL**



**ASSESSMENT CRITERIA**  
**SECTIONAL ELEVATION:**

1   WALLS	5
2   FOUNDATION BLOCKS	4
3   HARDCORE FILL	1
4   CONCRETE SLAB	3
5   GROUND LEVEL LINES	2
6   LABELS	3
7   DAMP PROOF COURSE LINES	1
8   HATCHING	9

**FLOORPLAN**

9   AREA CALCULATION	2
10   PERIMETER CALCULATION	1
11   WALLS	3
12   HATCHING	3
<b>TOTAL</b>	<b>37</b>

AREA CALCULATION	PERIMETER CALCULATION
AREA =	PERIMETER =

NAME

ANSWER SHEET 4