



# **Education and Sport Development**

Department of Education and Sport Development  
Departement van Onderwys en Sport Ontwikkeling  
Lefapha la Thuto le Tihabololo ya Metshameko  
**NORTH WEST PROVINCE**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**MATHEMATICAL LITERACY PAPER 1**

**JUNE EXAM 2019**

**MARKS: 100**

**TIME: 2 hours**

**This question paper consists of 12 pages including 2 Annexures and 1 Answer sheet.**



NW/JUNE/MATLIT/EMIS/6\*\*\*\*\*

**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of FIVE questions. Answer ALL the questions.
2. 2.1 Use ANNEXURES to answer the following questions:
  - ANNEXURE A for QUESTION 3.2
  - ANNEXURE B for QUESTION 4
- 2.2 Answer QUESTION 5.2.3 on the ANSWER SHEET attached.
3. Number the answers correctly according to the numbering system used in this question paper.
4. ALL the calculations must be clearly shown.
5. An approved calculator may be used, unless stated otherwise.
6. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Map and diagrams are NOT necessary drawn to scale, unless stated otherwise.
9. Write neatly and legibly.



**QUESTION 1**

1.1

Peter works at a flower store in the North West Province.

Table 1 below is his payslip.

**TABLE 1: PETER'S PAYS LIP**

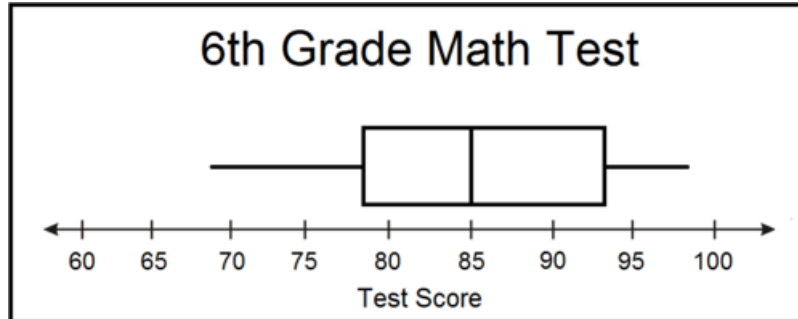
<b>Employee:</b> Peter Tau	<b>Company Details</b>		
<b>Payslip number:</b> 8	Vooma`s Petal 1 van Velden St Brits		
Date employed	01/02/2018		
Occupation	Manager		
<b>Identity number</b>	<b>8305255132086</b>	<b>Pay Period</b>	<b>01/10/2018 to 31/10/2018</b>
Description		<b>Earnings (R)</b>	<b>Deductions (R)</b>
Basic Salary		34 350	
Travel Allowance		3 500	
Medical aid			4 200
Health benefit program			500
Provident fund			2 750
Tax			6 500
<b>Net Pay</b>			

Use the information above to answer the questions that follow:

- 1.1.1 Write down the name of the company that Peter works for. (2)
- 1.1.2 What month is the payslip for? (2)
- 1.1.3 Calculate the total amount that Peter earned before deductions. (2)
- 1.1.4 Calculate the total amount deducted during this pay period. (2)
- 1.1.5 Hence, calculate Peter`s Net pay for this pay period. (2)
- 1.1.6 If Peter decided to reduce his provident fund by R860, calculate his new Net pay. (2)

1.2

Ms Smith, a grade 6 Mathematics teacher, shared the results of her learners' test.  
Below are the results displayed in the box and whisker graph.



Use the box and whisker graph above to answer the questions that follow.

- 1.2.1 Estimate the lower quartile of the test. (2)
- 1.2.2 What percentage of learners scored 93% or higher in the test? (2)
- 1.2.3 Calculate the range of the test. (2)

1.3

Gladys and her friends want to take a trip from Pretoria to Durban.

**TABLE 2: DISTANCE TABLE**

<b>Durban</b>							
667	<b>East London</b>						
1 249	630	<b>George</b>					
598	992	1 168	<b>Johannesburg</b>				
841	750	734	467	<b>Kimberly</b>			
689	1 214	1 509	358	832	<b>Nelspruit</b>		
927	300	330	1 062	752	1 373	<b>Port Elizabeth</b>	
565	1 050	1 226	58	532	342	1 120	<b>Pretoria</b>

Use the distance table above to answer the questions that follow.

- 1.3.1 Which two places are the furthest from each other? (2)
- 1.3.2 How far is Durban from Pretoria? (2)
- 1.3.3 If Gladys and her friends left Pretoria at 11:00 and took 3 hours 20 minutes travelling, what time did they arrive in Durban? (2)

[24]



**QUESTION 2**

2.1

Tebogo lives with his wife and 3 children. He contributes a regular monthly amount from his salary towards a funeral plan. The contribution is deducted from his salary through a stop order on the 1<sup>st</sup> day of each month.

Below is the table of the funeral covers offered by ABC funeral.

**TABLE 3: FUNERAL COVERS OFFERED BY ABC FUNERAL**

Cover	Main member fee	Spouse fee
R10 000	R50,00	R27,00
R15 000	R57,00	R32,00
R20 000	R65,00	R48,00
R30 000	R77,00	R54,00
R50 000	R100,00	R74,00
R60 000	R112,00	R83,00
Cover	Extended Family member fee	Parents fee
R5 000	R70,00	R65,00
R10 000	R110,00	R100,00
R15 000	N/A	R140,00
Cover	Child fee	
R10 000	R36,00	
R20 000	R45,00	

Use Table 3 and the information above to answer the questions that follow.

- 2.1.1 Define the concept *stop order*. (2)
- 2.1.2 Calculate Tebogo's monthly contribution towards funeral cover that worth R20 000 for himself and his family. (4)
- 2.1.3 Express the ratio (in the simplified form) of the main member fee to the extended family member fee if each is covered for R10 000. (3)
- 2.1.4 Calculate how much percentage is the child fee of the R20 000 cover. (3)

2.2

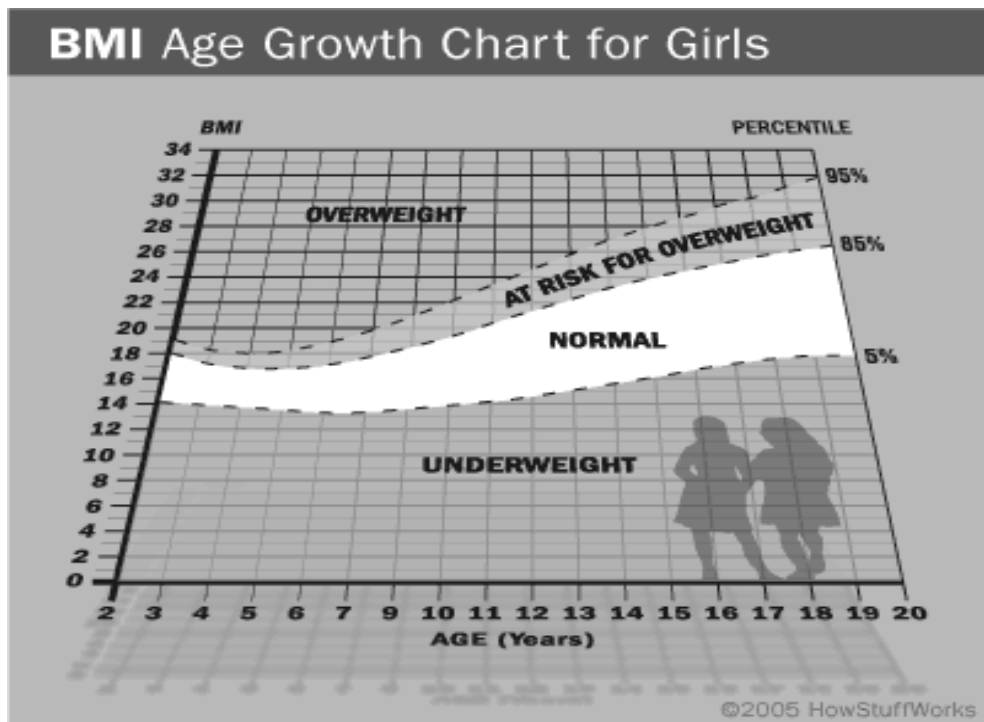
Tebogo exchanged a gift of £530,00 to South African rand at a bank.  
 The exchange rate was R1,00 = £0.055.  
 The bank charged 1,98% commission on the amount exchanged.

- 2.2.1 Calculate (in pounds) the amount of commission Tebogo paid. (2)
  - 2.2.2 Convert £530,00 to rand. (3)
  - 2.2.3 Tebogo then invested R8 500,00 of his gift in a fixed deposit account for 2 years at a compound interest rate of 7,5% per annum. Calculate the amount he will receive after the investment period. (5)
- [22]**

**QUESTION 3**

3.1

Mary is a nurse at Pholong clinic. She demonstrates the use of growth charts of both boys and girls to parents when they visit the clinic.



Use the Body Mass Index chart above to answer the questions that follow.

- 3.1.1 Identify the age group represented on this chart. (2)

- 3.1.2 What does it mean when a girl has a BMI-for-age relationship that is positioned on the 85th percentile curve? (2)
- 3.1.3 Consider a 14 year old girl with the weight of 36 kg and has a BMI of 24,5 kg/m<sup>2</sup>.
- (a) Identify the weight status category of this girl. (2)
- (b) Calculate the girl's height (in metres) rounded off to TWO decimal places.

You may use the following formula:

$$\text{BMI} = \frac{\text{Weight (in kilograms)}}{(\text{Height in metres})^2} \quad (4)$$

- 3.1.4 Mary stores some of the medications in the fridge at a temperature of 5,99°C. Convert (rounded off to the nearest whole number) the temperature of 5,99°C to °F.

You may use the following formula:

$$^{\circ}\text{F} = (1,8 \times ^{\circ}\text{C}) + 32 \quad (3)$$

3.2

Paula is a receptionist at Pholong clinic. The layout of the waiting room and the reception area are given on ANNEXURE A.

Use the information on ANNEXURE A to answer the questions that follow.

- 3.2.1 Calculate the perimeter of the waiting room if it is  $\frac{2}{3}$  of the total perimeter. (4)
- 3.2.2 Calculate the area (in cm<sup>2</sup>) of the floor plan.

You may use the following formula:

$$\text{Area} = \text{length} \times \text{width} \quad (3)$$

**[20]**

#### QUESTION 4

Lethabo stays in Midrand and he plans to visit Alexandra. ANNEXURE B shows the map of suburbs in Johannesburg.

Use ANNEXURE B to answer the questions that follow.

- 4.1 Name the national roads that Lethabo will use to travel to Alexandra. (2)



- 4.2 Give the general direction of Alexandra from Midrand. (2)
- 4.3 Identify three suburbs that Lethabo will pass on his way to Alexandra. (3)
- 4.4 The distance from Midrand to Alexandra is 22 km. Lethabo was driving at an average speed of 125 km/h from Midrand to Alexandra. Calculate the time spent on the road in hours and minutes.

You may use the following formula:

$$\text{Time} = \frac{\text{Distance}}{\text{speed}} \quad (3)$$

- 4.5 If the distance between Midrand and Alexandra is 6,5 cm on the map, write down the scale of map in the form 1: ..... (3)
- [13]**

### QUESTION 5

5.1

Mr Rooi is a retired man who has joined the Older People's Association (OPA). He decided to take the statistics of the old people walking with sticks and those who do not.

**TABLE 5: THE NUMBER OF OLD PEOPLE WALKING WITH STICK AND THOSE WHO DO NOT**

Age	Number of old people walking with stick	Number of old people walking without stick	Total
60	1	35	36
65	2	33	35
70	5	20	25
75	10	15	25
77	10	6	16
80	14	5	19
82	13	A	37
85	19	10	29
88	16	2	18
90	10	0	10

Use the TABLE 5 above to answer the questions that follow.

- 5.1.1 Calculate the value of A. (2)
- 5.1.2 Calculate the mean of the total values. (3)
- 5.1.3 Determine the mode of the old people walking with stick. (2)
- 5.1.4 Determine the median of the old people walking without stick. (3)





5.2

Mr Rooi's grandchild decided to group the statistics gathered by his grandfather. Table 6 below shows the grouped statistics.

**TABLE 6: GROUPED STATISTICS**

Age	No. of old people walking with stick	No. of old people walking without stick	Total
60 - 70	8	<b>B</b>	96
71 - 80	34	26	60
81 - 90	58	36	94
<b>TOTAL</b>	<b>A</b>	150	250

Use TABLE 6 above to answer the questions that follow.

5.2.1 Calculate the values of **A** and **B**. (4)

5.2.2 Determine the probability (as a percentage) that the person walking without a stick is between the ages of 81 and 90. (3)

5.2.3 Use the information given in TABLE 6 to draw a compound bar graph to compare the people walking with stick to those walking without a stick on the ANSWER SHEET provided. (4)

[21]

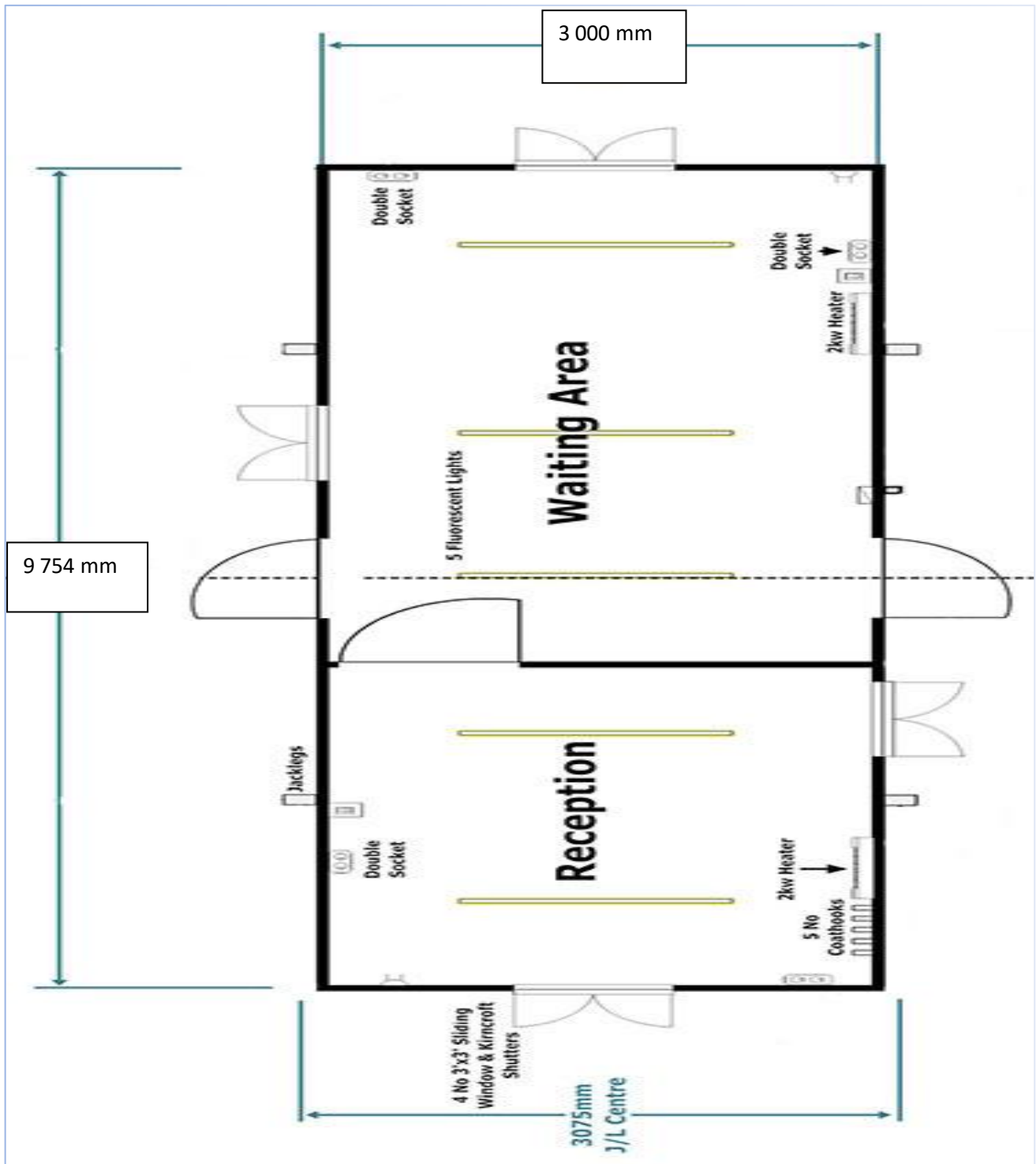
**TOTAL: 100**



ANNEXURE A

QUESTION 3.2

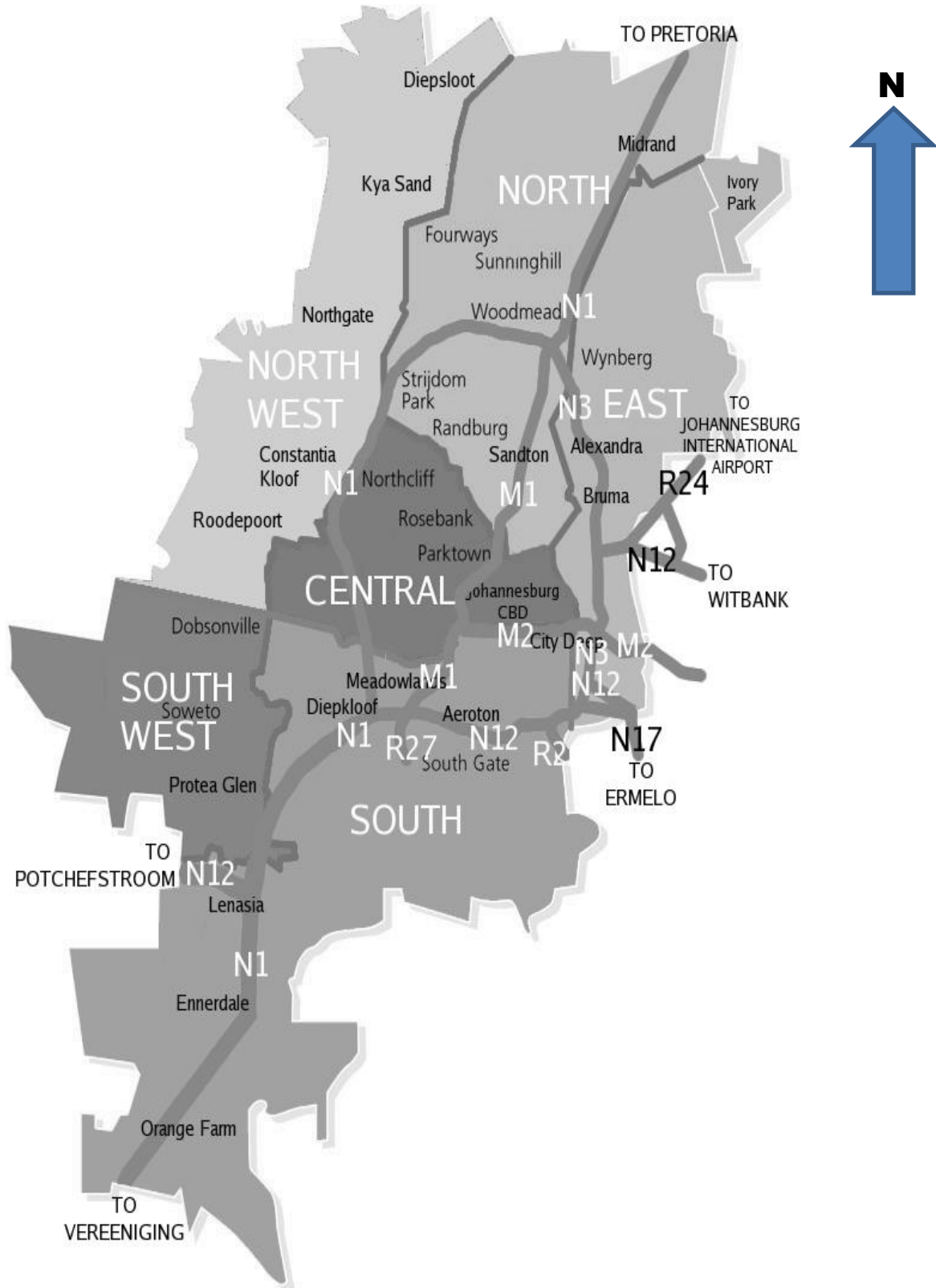
The floor plan of the waiting room and the reception area at Pholong clinic.



**ANNEXURE B**

**QUESTION 4**

**THE MAP OF JOHANNESBURG SUBURBS**



**ANSWER SHEET**

**QUESTION 5.2.3**

**NAME:** .....**CLASS:** .....

