



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2017

MATHEMATICAL LITERACY P1

MARKS: 100

TIME: 2 hours

This question paper consists of 13 pages including an answer sheet.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions. Answer ALL the questions.
2. Use the ANSWER SHEET provided to answer QUESTION 5.2.2.
3. Write your NAME and GRADE on your ANSWER SHEET and hand it in with your ANSWER BOOK.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Start EACH question on a NEW page.
6. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
7. Show ALL calculations clearly.
8. Round off ALL the final answers appropriately according to the given context, unless stated otherwise.
9. Indicate units of measurement, where applicable.
10. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.
11. Write neatly and legibly.

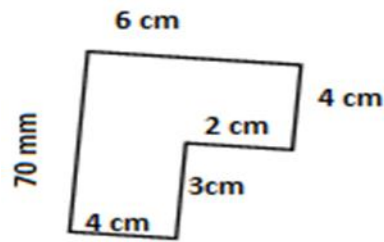
QUESTION 1

1.1 Study the payslip below and answer the questions that follow.

Payslip for the period 1 January 2017 – 31 January 2017			
Name of Employer:		Date of Payment:	
LND Pty Ltd		5 Feb 2017	
Name of Employee:		Method of Payment:	
Thando Peter		Cash	
ITEM	AMOUNT (R)	OVERTIME DETAILS	
Basic salary	25 820	Overtime hours	5
Total allowances (breakdown below)	6 455	Total worked overtime pay	R1 290
(i) Transport	3 873	Item	Amount
(ii) Uniform	2 582	Other additional Payments (Breakdown below)	R38 730
Deductions		Annual Bonus	R38 730
(i) UIF	258,20		
(ii) Income Tax	4 956,38	Net Pay	-----
(iii) Loan	2 582		
(iv) Pension Fund	1 956,50		

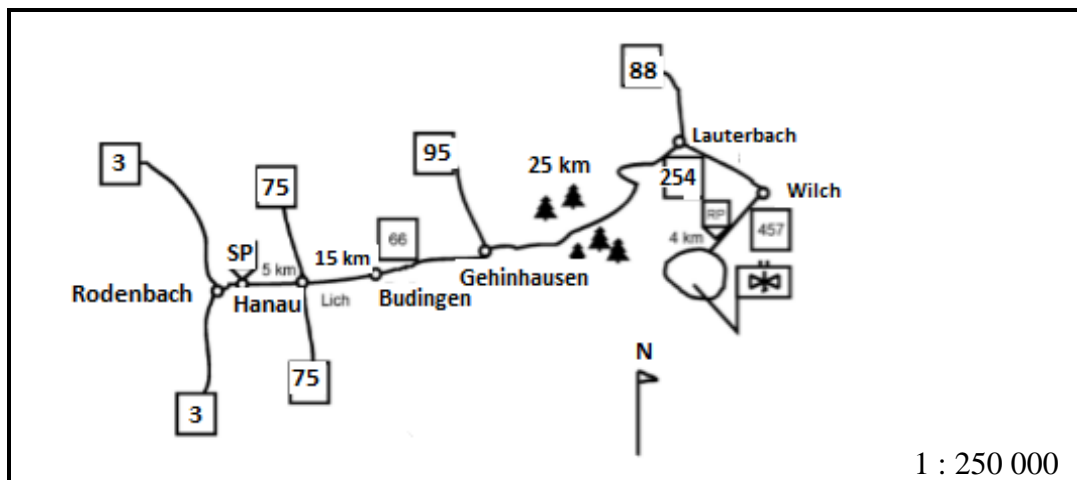
- 1.1.1 Write down the month in which the salary was paid. (2)
- 1.1.2 Calculate the total deductions for this employee. (2)
- 1.1.3 Write down the acronym UIF in full. (2)
- 1.1.4 The employee decided to share R1 290 between his two children Linda and Ludwe in the ratio 3 : 2 respectively. Calculate the amount Linda will receive. (2)

- 1.2 Asisipho drew the diagram below showing her mother's room.



Calculate the perimeter of the room in centimetres. (2)

- 1.3 Study the strip map below and answer the questions that follow.



1.3.1 Write down the compass direction of Lauterbach from Hanau. (2)

1.3.2 Explain the meaning of 1 : 250 000 on the chart. (2)

- 1.4 Bonny recorded Graaff Reinet's temperatures in degrees Celsius from Wednesday, 13th of September to Friday, 22nd of September 2017. Study the information below and answer the questions that follow.

Dates	13	14	15	16	17	18	19	20	21	22
Min.	8	8	11	7	7	9	12	12	12	12
Max.	25	21	26	17	19	23	29	28	26	27

[Source: accuweather.com]

1.4.1 Arrange the maximum (max.) temperatures from smallest to biggest. (2)

1.4.2 Write down the lowest minimum value of the data. (2)

1.4.3 Write down the meaning of the "mode" in a data. (2)

[20]

QUESTION 2

2.1

Quzini High School soccer and rugby teams are planning a tour to Port Elizabeth. The team's manager, Lwando obtained a quotation for accommodation costs per night at Red Lodge shown in TABLE 1 below.

TABLE 1: RED LODGE ACCOMMODATION COSTS

Type of room	Cost per night per unit
2 Sleeper	R855
4 Sleeper	R1 035
6 Sleeper	R1 400
8 Sleeper	R1 495
Executive (Honeymoon)	R1 450

NOTE: These prices exclude VAT (VALUE ADDED TAX = 14%)

Use the table above to answer the questions that follow.

- 2.1.1 Write down the cost for the executive room. (2)
- 2.1.2 Express the cost for the executive room as a percentage of the cost of a room where 8 sleep. Give your answer to ONE decimal point. (4)
- 2.1.3 Calculate the total amount to be paid per day for accommodation if the learners use the rooms as follows:
 1 room where 8 sleep
 2 rooms where 4 sleep
 3 rooms where 6 sleep (4)
- 2.1.4 Hence, calculate the total cost including Value Added Tax (VAT of 14%) of accommodation if the learners will stay for four days and return on the fifth day. (5)

2.2 A deposit of 12,5 % of the total accommodation cost excluding VAT is required to secure the booking and the balance is payable on the day of arrival.

2.2.1 Calculate the amount that must be paid as deposit. (3)

2.2.2 Calculate the balance amount to be paid on the day of arrival. (2)

2.2.3 Write in words the balance amount to be paid on the arrival day. (2)

The school received a donation of 20 US Dollars (\$) from an ex-rugby player to cater for transport.

2.2.4 Convert the \$ 20 to rands.
Given \$ 1 = R14,2058. (3)

2.3 Study the parking tariffs below and answer the questions that follow.

MALL A: PARKING TARIFFS			
Monday – Thursday		Friday, Saturday, Sunday and Public Holidays	
0 hour – 1,5 hours	R0,00	0 hour – 1,5 hours	R5,00
1,5 hours – 2,5 hours	R9,00	1,5 hours – 2,5 hours	R10,00
2,5 hours – 3,5 hours	R12,00	2,5 hours – 3,5 hours	R10,00
3,5 hours – 4,5 hours	R14,00	3,5 hours – 4,5 hours	R10,00
4,5 hours – 5,5 hours	R16,00	4,5 hours – 5,5 hours	R10,00
5,5 hours – 6,5 hours	R19,00	5,5 hours – 6,5 hours	R10,00
6,5 hours +	R35,00	6,5 hours +	R30,00
Lost ticket	R35,00	Lost ticket	R35,00

Quzini High School's bus is expected to park at Mall A's parking area during the week. The parking is for 2,6 hours daily, from the 2nd to the 5th day of the tour while the learners enjoy a breakfast. Calculate the total amount of money to be paid for parking.

(2)
[27]

QUESTION 3

- 3.1 Dogs are fed according to their weight to keep them healthy. Nikki keeps two dogs, Tiger and Tommy, which weigh 22 kg and 42 kg respectively. Study the dog food specifications label in TABLE 2 below to answer the questions that follow.

TABLE 2: DAILY FOOD REQUIREMENTS ACCORDING TO WEIGHT

Size of dog	Weight of dog	Daily food requirement
Small	Up to 20 kg	250 g
Medium	20 – 40 kg	Minimum 250 g – Maximum 500 g
Large	40 kg+	Minimum 500 g – Maximum 750 g

- 3.1.1 Calculate the amount of daily minimum food requirements for the two dogs. Give your answer in cups.

Use 1 cup = 125 g (3)



- 3.1.2 Calculate the number of days a 10 kg packet of dog food will last the two dogs feeding them with minimum requirement ratios.

You may use the formula:

$$\text{Number of days} = \frac{\text{weight of a packet}}{\text{daily requirement of two dogs}} \quad (4)$$

- 3.1.3 Convert Tommy's weight to tons. 1 ton = 1 000 kg. (2)

- 3.2 Thandi wants to lay ceramic tiles in her rectangular bedroom that measures 3 m by 3,5 m. Study the details of the size and the packaging of the tiles below and answer the questions that follow.

Dimensions of a tile	Cost of tiles
	

[Adapted from *BTM catalogue*]

- 3.2.1 Convert 43 cm to metres (m) (2)
- 3.2.2 Calculate the area of Thandi's main bedroom.

You may use the formula:

$$\text{Area of a rectangle} = \text{length} \times \text{breadth} \quad (2)$$

- 3.2.3 Calculate the number of boxes of tiles needed for Thandi's bedroom. (tiles are sold in boxes only)

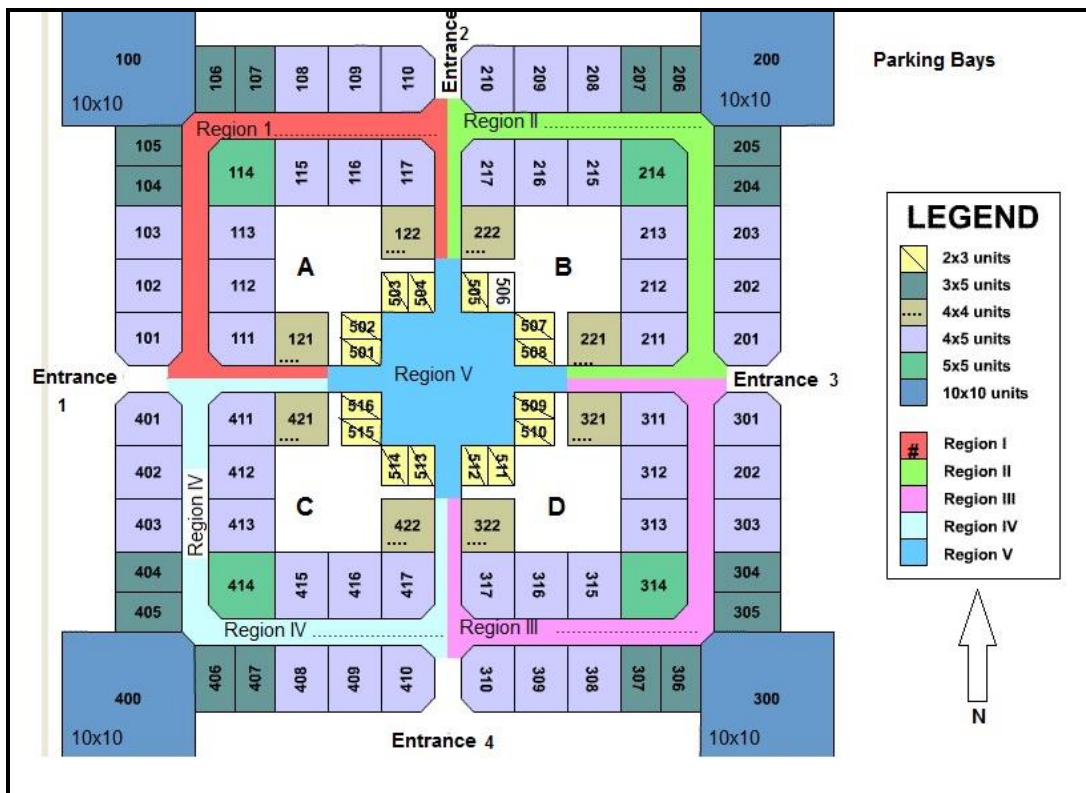
You may use the formula:

$$\text{Number of boxes of tiles} = \frac{\text{Area of the bedroom}}{\text{area of a tile} \times \text{number of tiles in a box}} \quad (5)$$

[18]

QUESTION 4

4.1 Study the floor plan of the shopping mall below and answer the questions that follow.

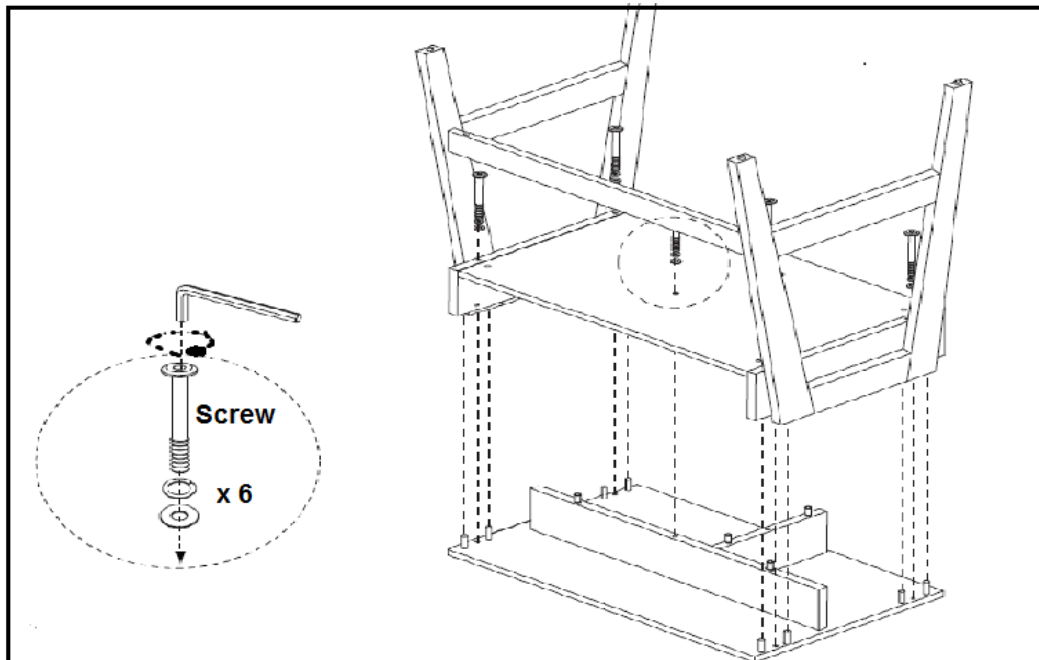


[Source: www.decorfarms.me]

- 4.1.1 Determine the number of 2 x 3 units. (2)
- 4.1.2 Identify the size of units found at the corners of the mall. (2)
- 4.1.3 Lindi entered the mall on the West side. She went straight through Region V and turned left before entrance 3, passing three shops on the right and entered the fourth shop on the left. Write down Lindi's destination. (3)

- 4.2 Study the second last stage of assembling a learner's desk below and answer the questions that follow.

SECOND LAST STAGE OF ASSEMBLING THE SCHOOL DESK



Determine the following:

- 4.2.1 The number of screws needed to fix two of these school desks (2)
- 4.2.2 The direction in which the screw is tightened. Is it clockwise or anticlockwise? (2)

[11]

QUESTION 5

- 5.1 TABLE 3 below shows the information about the dams that had above ten million cubic metres of water in January 2016. The terms “fullest and emptiest” are used to indicate the amount of water in the dam in relation to its capacity.

TABLE 3: DAMS WITH MORE THAN TEN MILLION CUBIC METRES OF WATER				
Province	Fullest dam name	Fullest dam capacity (in million cubic metres)	Emptiest dam name	Emptiest dam capacity (in million cubic metres)
Northern Cape	Boegoeberg	19,9	Spitskop	57,9
Western Cape	Garden Route	10	Gamkapoort	36,3
Free State	Saulspoort	15,7	Krugersdrift	71,5
North West	Bospoort	15,8	Setumo	20,8
Gauteng	Roodeplaat	41,2	Bronkhorstspuit	57
Limpopo	De Hoop	348,7	Glen Alpine	18,9
Mpumalanga	Heyshope	445	Ohrigstad	13,5
KwaZulu Natal	Inanda	237,5	Klipfontein	18,1
Eastern Cape	Mthatha	224,7	Darlington	180,9

Use TABLE 3 to answer the questions that follow.

- 5.1.1 Identify the fullest dam with the maximum capacity. (2)
- 5.1.2 Calculate the difference between the highest fullest dam and the highest emptiest dam. (3)
- 5.1.3 Calculate the mean emptiest dam capacity. (3)
- 5.1.4 Write down the name(s) of the emptiest dams with less than twenty million cubic metres. (2)
- 5.1.5 Determine the range capacity for the fullest dams. (2)

- 5.2 Study TABLE 4 that shows the number of absent Grade 11 learners at Siyo High School and answer the questions that follow.

TABLE 4: Number of Grade 11 absentees for two weeks:					
Week 1 dates	4th	5th	6th	7th	8th
No. of absent learners	22	1	2	4	18
Week 2 dates	11th	12th	13th	14th	15th
Number of absent learners	8	12	3	5	14

- 5.2.1 Identify the week which had the highest number of absentees. (2)
- 5.2.2 Use a bar graph to represent the number of learners who were absent in Week 2. (5)
- 5.3 Bathandwa had a bag with eighteen balls. Three balls were white, five green and the rest were blue.

- 5.3.1 Determine the probability that the ball randomly selected from the bag was green. (2)
- 5.3.2 Express the probability of randomly selecting a blue ball from the bag as a percentage. Your answer should be rounded off to two decimal places. (3)

[24]

TOTAL: 100

ANSWER SHEET

NAME OF LEARNER:

GRADE 11: _____

QUESTION 5.2

