



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 11**

**NOVEMBER 2016**

**MATHEMATICAL LITERACY P1**

**MARKS: 100**

**TIME: 2 hours**



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This question paper consists of 11 pages, including 1 answer sheet and 1 annexure.

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**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of FIVE questions. Answer ALL the questions.

Use the ANNEXURE to answer QUESTION 1.

Answer QUESTION 4.7 on the ANSWER SHEET provided and hand it in with your ANSWER BOOK.

2. Number the questions correctly according to the numbering system used in this question paper.
3. A non-programmable and non-graphical calculator may be used, unless stated otherwise.
4. ALL calculations and steps must be shown clearly.
5. Units of measurement must be indicated where applicable.
6. Start each question on a NEW page.
7. Round all final answers appropriate according to the context used.
8. Write neatly and legibly.

**QUESTION 1**

- 1.1 Sandra paid cash for the service of her car at Bennie's Service station. Study the information in the ANNEXURE to answer the questions that follow:
- 1.1.1 Name the Franchise Dealer that serviced Sandra's car. (2)
- 1.1.2 Calculate the value of **A**, the amount charged for the labour. (2)
- 1.1.3 Show, with calculations, that the discount for the battery is 50%. (2)
- 1.1.4 Calculate the total unit price of all the parts used for servicing the car. (2)
- 1.1.5 Calculate the value of **B**, the amount of VAT paid by Sandra. (2)
- 1.1.6 Calculate the difference between the highest unit price and lowest unit price. (3)
- 1.2 Study the extract from Sandra's cheque account statement below and answer the questions that follow: (Some information is omitted.)

**Table 1: Sandra's cheque account statement from 23 to 25 March 2016**

Date	Item description	Amount (R)	Balance (R)	Bank Accrued Charges
23 March	Opening Balance		R22 598,09	
23 March	Cell transfer to card	2 000,00	24 598,09	
23 March	Airtime Top-up - Airtime 0633148090	110,00	24 486,99	1,10
24 March	POS Purchase Cheque Card @ CFR Shop	539,32	23 947,67	
24 March	ATM Cash - Main street	4 500,00	19 447,67	
24 March	Airtime Top-up - Airtime 0732729000	55,00	19 391,57	1,10
24 March	Send money to 0633148090	500,00	18 882,07	9,50
25 March	Cheque Card Fuel Purchase @ Ted Garage	300,00	18 582,07	
	Closing balance		<b>18 582,07</b>	

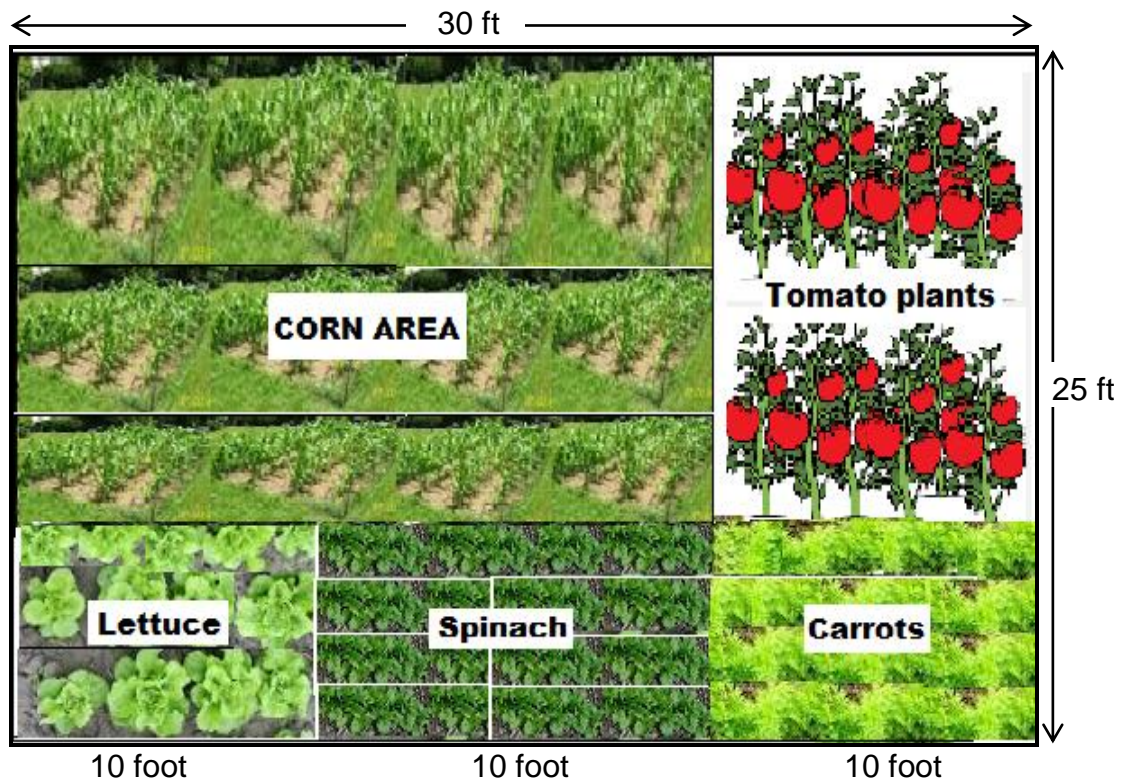
- 1.2.1 Explain the term "opening balance". (2)
- 1.2.2 On the 24<sup>th</sup> of March 2016 the bank accrued charges for the amount sent to 0633148090 was R9,50. Determine the bank accrued charges as a percentage of the amount sent. (3)
- 1.2.3 Determine the total amount Sandra paid for using the bank to buy airtime. (3)
- 1.2.4 Write down Sandra's balance on the 25 March 2016 in words. (2)

**[23]**

## QUESTION 2

- 2.1 Nonine is a retired teacher who usually plants vegetables in her rectangular garden. She sent her soil sample to the laboratory to be tested. The results from the sample indicated the need to apply 2 pounds of 15-15-15 (Nitrogen-Phosphorus-Potassium) fertiliser per 100 square feet ( $ft^2$ ). She plans to spread the fertiliser over a 20 x 15 foot area for corn. She has three 10-foot rows; one each for carrots, lettuce and spinach. She also has 10 tomato plants, which are fertilised individually.

Use the picture below that shows Nonine's rectangular garden and the conversion table given to answer QUESTION 2.1



$1 m = 3,281ft$   
 $1 pound = 2 cups$   
 $1 cup = 250 ml$   
 $1m^2 = 10,764ft^2$

- 2.1.1 Write down the length and the width of Nonine's garden in feet. (2)
- 2.1.2 Calculate the area of Nonine's vegetable garden. Give your answer in square metres.  
**You may use the formula: Area of a rectangle = length x breadth** (4)

- 2.1.3 Calculate the amount of the fertiliser needed for the corn area in the garden. Give your answer in pounds.

**You may use the formula:**

$$\text{Amount of fertiliser} = \frac{\text{Area covered by corn}}{\text{Area covered by fertiliser}} \quad (5)$$

- 2.1.4 Each tomato plant needs 0,15 pound of the fertiliser. Convert the amount of the fertiliser needed for each tomato plant into cups. (3)

- 2.2 Nonine's daughter, Mimmy, fell sick and consulted a doctor. She was given medication and instructed to complete an antibiotic treatment. The table below shows the medication given to her.

**Table 2: Certified copy of doctor's script (some information is omitted)**

Code	Type of medication	Volume	Amount
797979018	Flusin DM Take two medicine measures (10 ml) Three times a day	Syrup 100 ml 10D	R67,46
756156017	Ponstan 50 mg/5 ml Take three medicine measures (15 ml) four times a day	200 ml 10D	R37,70
710041002	Augmentin ES 600 Take two medicine measures (10 ml) twice a day**complete course**	100 ml 5D	710041002

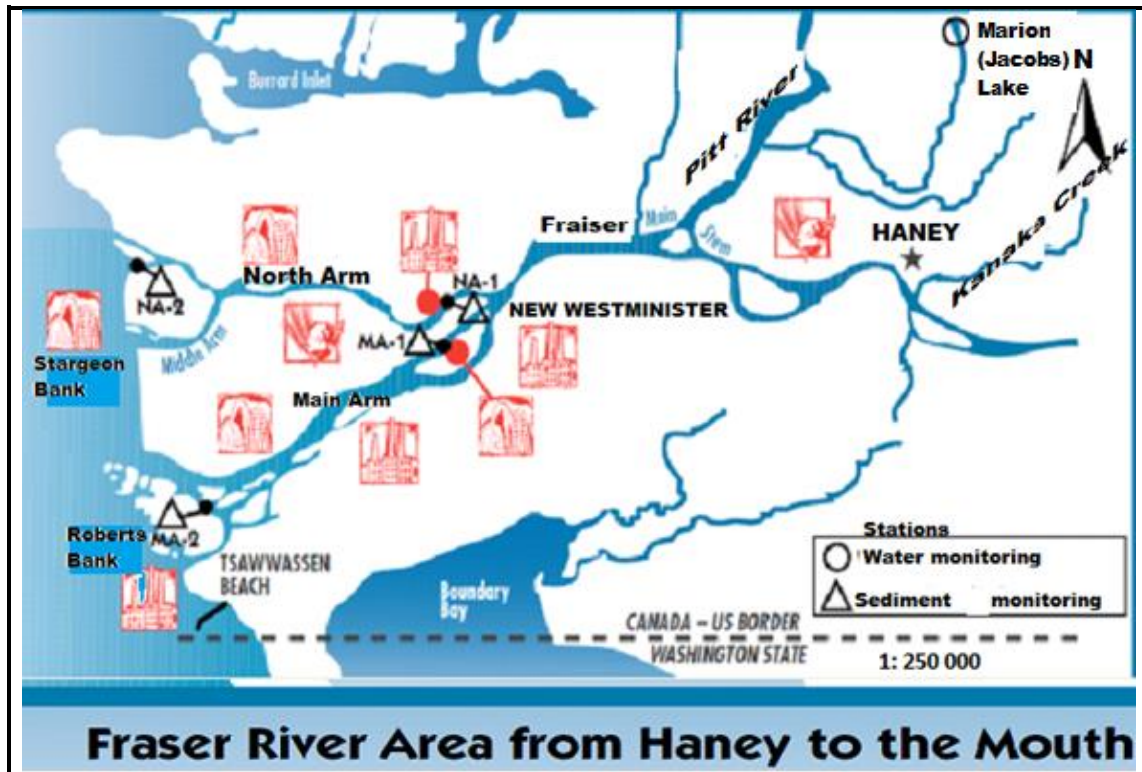
- 2.2.1 Calculate the total number of millilitres of medicine measures that Mimmy had to take in the morning at breakfast and in the evening at supper. (3)

- 2.2.2 Calculate the amount of Augmentin ES 600 to be taken on the last day. (2)

**[19]**

### QUESTION 3

- 3.1 Study the map below of Fraser River Area from Haney to the Mouth and answer the questions that follow:

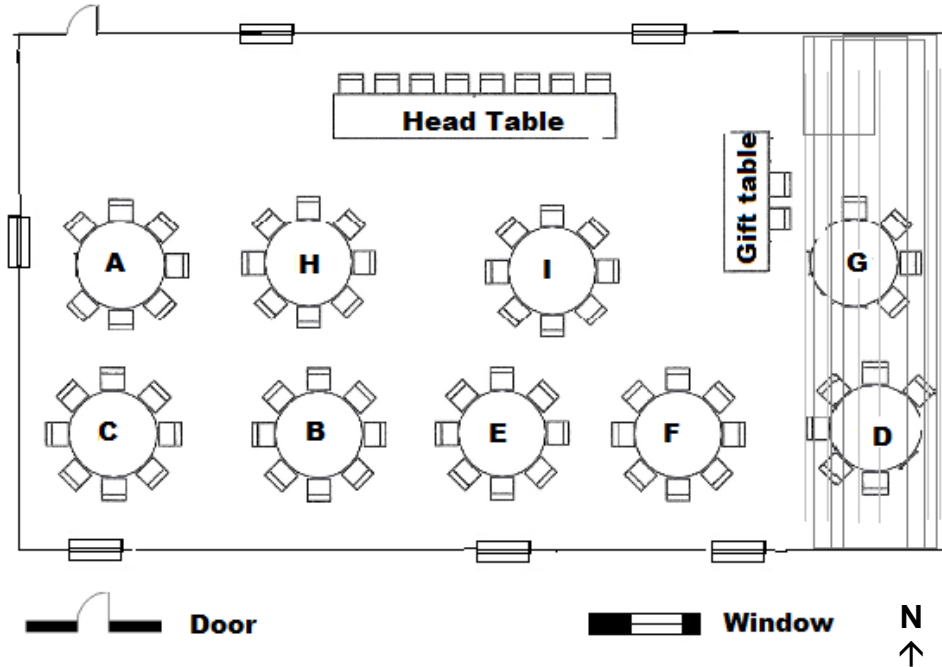


[Source: www.env.gov.bc.ca]

- 3.1.1 Determine the number of sediment monitoring stations from the map. (2)
- 3.1.2 Write down the type of monitoring station named Marion (Jacobs) Lake. (2)
- 3.1.3 Identify the sediment monitoring station that lies between Main Arm and North Arm to join Fraser. (2)
- 3.1.4 Measure the distance (in a straight line) in centimetres between Haney and NA-2. (2)
- 3.1.5 Use your measured distance in QUESTION 3.1.4 and the given scale to determine the actual distance between Haney and NA-2 in kilometres. (3)

3.2 The Vellem family invited few guests to celebrate in their son’s graduation ceremony for completing a Diploma in Management from Walter Sisulu University. The hall was partitioned into two by a curtain making table D and G unavailable to guests.

Study the hall plan below and answer the questions that follow:



**Tables**

**A-I, Head Table and Gift table**

-seat occupied by guests and family members

- 3.2.1 One of the guests did not want to sit close to the window. Identify the table where this guest may be seated. (2)
- 3.2.2 Give the general compass direction of Table F from Table H. (2)
- 3.2.3 Determine the probability that a person randomly chosen will be seated at tables D and G during the ceremony. (2)
- 3.2.4 One of the guests was asked to walk straight from the door to sit at the second left table. Name the table where this guest will be seated. (2)

**[19]**

**QUESTION 4**

Table 3 below compares prices of selected food items in the rural and urban areas for January 2015. Study the table and answer the questions that follow:

**Table 3: Comparison between urban and rural food prices (selected food items)**

Product	Rural food prices January 2015 (in Rands)	Urban food prices January 2015 (in Rands)	Price difference Rand per unit
Full cream Long Life Milk (1 ℓ)	12,03	12,59	0,56
Loaf of Brown Bread (700 g)	9,57	10,29	0,72
Loaf of White Bread (700 g)	10,31	11,42	1,11
Maize Meal (5 kg)	32,49	33,73	1,24
Margarine(500 g)	17,89	21,68	3,79
Rice (2 kg)	23,62	23,45	-0,17
Sunflower Oil (750 ml)	14,59	17,25	2,66
Ceylon/Black Tea (62,5g)	9,89	9,68	-0,21
White Sugar (2,5 kg)	29,63	26,31	-3,32
Average			<b>A</b>

[Source: StatsSA, 2015]

- 4.1 Arrange the rural food prices in descending order. (2)
- 4.2 Determine the median for rural food prices. (2)
- 4.3 Calculate the range for urban food prices. (3)
- 4.4 Identify the minimum price difference in rand per unit. (2)
- 4.5 Identify ONE product with the largest price difference between Urban and Rural area. (2)
- 4.6 Identify the mode for urban food prices. (2)
- 4.7 Draw a bar graph to show the last FIVE products from urban food prices. Use the graph paper provided on **ANSWER SHEET 1**. (6)
- 4.8 Write down your observation about the food prices for both urban and rural customers. (2)
- 4.9 Calculate the value of **A**, the average price difference in rand per unit. (3)
- 4.10 Determine the probability that a product randomly selected has a mass of 700 g. Give your answer to the nearest percentage. (3)

**[27]**



**QUESTION 5**

Victoria went to Sparrow shop to buy few items. She has a loyal card that she uses to earn points when the card is presented at the till. The earned points can be converted to cash to buy some items from the shop when it is needed. Study the till slip below she received from Sparrow and answer the questions that follow: (\*some information is omitted\*)

**SPARROW SHOP**  
**Roseplace.Tel: 716 1610**

<b>Customer: Victoria</b>				<b>Prices (R)</b>	
Parm Stew F/Cus		1 kg		22,49	
Mc Beans (Fresh Greenbeans)		1 kg		36,99#	
A/Chix B/P 4-PCE 0,542 kg @ 53,99		p/kg		29,26	
A/Chix B/P 4-PCE 0,474 kg @ 53,99		p/kg		25,59	
Flora regular margarine per kg 2 @ .....		1 kg		99,98	
Sunday Times National		1's		22,00	
Bostik Prestik L		100 g		17,99	
Koo PCH.Slice SR		410 g		9,99	
Valpre Still		1,5 ℓ		13,49	
Carrier bag 2 @ 0,50		24 ℓ		1,00	
<b>TOTAL FOR 12 ITEMS</b>				<b>278,78</b>	
Tendered debit card				478,78	
Change cash				200,00	
<b>Points earned:</b>					
<b>Before This sale:</b>		1639			
<b>This sale:</b>		13			
<b>Total points:</b>		<b>1652</b>			
VAT rate		Excluding.	Tax	Included	
0,00%		36,99	0,00	36,99*	
14,00%		212,10	29,69	241,79	
Slip	Till	Cashier	Date	Time	
4372	005	21	03.04.16	10:00	

- 5.1 Identify the price of an item that is zero VAT (Value Added Tax) rated. (2)
- 5.2 Identify the cash amount Victoria asked from the cashier at the till in Sparrow shop. (2)
- 5.3 Calculate the value of one point earned by customers at Sparrow Shop. Give your answer to the nearest ten rand. (2)
- 5.4 Calculate the cost of 600 g of Bostik Prestik at Sparrow shop excluding VAT. (2)
- 5.5 Calculate the price of 1 kg Flora Regular margarine. (2)
- 5.6 Calculate the total for all food items on which VAT is charged. (2)

**[12]**

**ANNEXURE  
QUESTION 1**

**Bennie's Service Station**

Franchise Dealer for Mercedes Benz, Chrysler, Jeep, Dodge, Mitsubishi, Freightliner and FUSO vehicles		Buffalo City Reg.No. TM 1234/0 VAT Reg.No.10465 25987 Billy Road, P.O. Box 238, East London, 5200 Tel.(043) 745 1254 Fax. (043) 745 2334			
Postal Address/Posadres B/Bay cash sales		Cash Tax Invoice		Deliver to/Gelewer aan	
		Invoice Number		Mrs. Sandra Twalo 10 Lily Street Sunset Bay 5201	
		23215874			
		Op	Vehicle		
		76416			
<b>REGISTRATION</b>	TDZ 652 EC	Date of 1 <sup>st</sup> reg.	26/04/11	Doc no.	26304/ 132568
<b>MODEL</b>	Mercedes Benz	Selling dealer	25A	Date	24/03/16
<b>Operation/Part no./Description</b>					
<b>Consumables 0100MSH</b>		<b>Quantity/</b>	<b>Unit</b>	<b>Unit</b>	<b>Amount</b>
<b>Engine Oil</b>		<b>Time units</b>	<b>Price (R)</b>		
	<b>U</b>	<b>5,50</b>		<b>29</b>	<b>159,50</b>
<b>MA271 180 05 09 Filter Oil</b>	<b>X</b>	<b>1</b>	<b>212,82</b>	<b>EACH</b>	<b>106,41</b>
<b>MA 001 986 19 71/ 1075 Cleaner Solv</b>	<b>X</b>	<b>1</b>	<b>4,99</b>	<b>EACH</b>	<b>2,50</b>
<b>MA 000 989 08 07/13 Fluid</b>	<b>X</b>	<b>1</b>	<b>75,87</b>	<b>EACH</b>	<b>37,94</b>
<b>MA 204 890 2311 TS Wiper Blade</b>	<b>X</b>	<b>1</b>	<b>697,13</b>	<b>EACH</b>	<b>348,57</b>
<b>MA 201 565 456 03 Battery</b>	<b>X</b>	<b>1</b>	<b>2469,92</b>	<b>EACH</b>	<b>1234,96</b>
<b>MA 313 836 0319 Filter Combi</b>	<b>X</b>	<b>1</b>	<b>726,16</b>	<b>EACH</b>	<b>363,08</b>
		<b>Goods value</b>	<b>VAT RATE</b>	<b>Taxable amount (incl labour)</b>	<b>NET TOTAL</b>
					3390,96
					<b>VAT/BTW</b>
					<b>B</b>
<b>Parts (X)</b>		2093,46	14 %	3390,96	<b>Rounding</b>
<b>Labour</b>		<b>A</b>			<b>0,09</b>
<b>Sublet</b>		0,00			
<b>Deposit</b>		0,00			
					<b>TOTAL</b>
					<b>3865,60</b>
<b>Goods are supplied subject to ownership vesting in the seller until paid for in full.</b>					

**ANSWER SHEET**

**SURNAME AND NAME**

**GRADE 11: .....**

**QUESTION 4.7**

**The graph showing selected urban food prices**

