basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

MATHEMATICAL LITERACY P1

EXEMPLAR 2012

MARKS: 75

TIME: 1½ hours

This question paper consists of 9 pages.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions. Answer ALL the questions.
2. Number the answers correctly according to the numbering system used in this question paper.
3. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
4. Show ALL the calculations clearly.
5. Round off ALL the final answers to TWO decimal places, unless stated otherwise.
6. Start EACH question on a NEW page.
7. Write neatly and legibly.

QUESTION 1

Lindi makes her own porridge every morning before she leaves for school. She needs water, mealie meal, salt and margarine to make this porridge.

The table below shows conversions between millilitres (mℓ) and grams (g) for certain ingredients used in cooking.

TABLE 1: Conversion table

Ingredients	5 mℓ	12,5 mℓ	100 mℓ	250 mℓ
Flour	3 g	8 g	60 g	150 g
Margarine	5 g	12,5 g	100 g	250 g
Mealie meal	3 g	6 g	50 g	120 g
Sugar	4 g	10 g	80 g	200 g

1 cup = 250 mℓ; 1 tablespoon = 12,5 mℓ; 1 teaspoon = 5 mℓ

Use the information and the table above to answer the following questions:

1.1 The porridge has to simmer (cook slowly) on a low heat for $\frac{1}{3}$ of an hour.

Write this time in minutes. (2)

1.2 How many grams of sugar make up 100 mℓ of sugar? (1)

1.3 Lindi stirs 1 tablespoon of margarine into the porridge. How many grams of margarine is this? (3)

1.4 Lindi first boiled 4 cups of water. How many litres of water is this? (3)

1.5 Lindi has a 2,5 kg bag of mealie meal to make the porridge with.

1.5.1 Convert 2,5 kg to gram. (2)

1.5.2 How many times can she make porridge from a full 2,5 kg bag if she uses 312,5 g of mealie meal each time she makes it? (2)

1.6 The picture below shows the control dial/knob of the stove plate on which Lindi boils the water.



Key: 0 is off
1 is the lowest setting
6 is the highest setting

Lindi has to let the porridge simmer on a low heat. On which number should she set the dial/knob? (2)

[15]

QUESTION 2

The data below represents the weekly pocket money (spending money) in rand that learners in a Grade 10 class in Vulumzi High School receive.

15	7	15	8	20	6	9	7	10	15	7
15	5	5	15	8	15	23	8	23	8	

2.1 Arrange the values in ascending order. (2)

2.2 What is the mode of the pocket money? (2)

2.3 Determine the maximum amount of pocket money a learner in this Grade 10 class received. (2)

2.4 Determine the median pocket money. (2)

2.5 Calculate the mean pocket money. (4)

2.6 Suppose one of these learners is selected at random. What is the probability that this learner would get R7 pocket money per week? Give your answer as a fraction in simplified form. (3)
[15]

QUESTION 3

3.1 Below is the till slip Ms Xander received for her shopping at Shop 'n Go.

SHOP 'N GO Telephone No.: 048 850 2132 Your cashier is Phumla Jakè.	
Carry Bag 24 ℓ	
2 @ 0,39	0,78
Rocher T8 Heart 100 g	31,99
Nescafé Cappuccino Choc	46,99
Zillions Fruit Chews	
4 @ 2,99	11,96
Microwave Popcorn Butter	
3 @ **A**	32,97
Cookies Brownies 225 g	24,99
Crackers Original S/G	3,99
Still Spring Water 500 mℓ	4,29
NN Lemon Creams 200 g	6,99
Sugared Gummy Tub 300 g	21,99
Orbit Professional White Gum	6,79
Mangoes	
2 @ 4,00	8,00 #
1 PAR Gouda Seal Wedge	18,90
JIVE Tropical Cup 150 mℓ	14,50
Fanta Zero 2 ℓ	14,89
Rapport Koerant 1's	13,00
Still Spring Water 1,5 ℓ	6,99
Sprite Zero 2 ℓ	14,89
Ice Cream Chocolate	39,99
DUE VAT INCL.	324,89
CASH	400,00
ROUNDING	-0,04
CHANGE	.....
TOTAL ITEMS	.....
----------TAX INVOICE----------	
VAT included @ 14,0%	38,92
Zero rated #	

Use the till slip to answer the following questions:

3.1.1 How many items did Ms Xander buy? (2)

3.1.2 Calculate **A**, the price per unit of the microwave popcorn. (2)

3.1.3 Calculate the total amount due after rounding if Shop 'n Go rounded the total down to the nearest 5 cent. (2)

3.1.4 How much change must the cashier give back to Ms Xander? (2)

3.1.5 Zero-rated items mean that no VAT is charged on those items.

Name the item that is zero rated on Ms Xander's till slip. (2)

3.1.6 How much VAT did Ms Xander pay in total for her shopping? (2)

3.2 Mr Khulu, a father of three children, earns a net salary of R18 350 per month after deductions. He budgets every month as follows:

TABLE 2: Mr Khulu's budget for December

MONTHLY INCOME		**MONTHLY EXPENDITURE**	
Salary after deductions	R17 800	Bond repayment	R4 100
Housing subsidy	R 550	Municipal rates	R 475
		Water and refuse account	R 325
		Electricity	R 580
		Food	R2 750
		Car instalment	R1 650
		Petrol	R1 800
		Entertainment	R1 300
		School fees	R 940
		Clothes and cellphones (12% of the total monthly income)	**(A)**
TOTAL	**R18 350**	**TOTAL**	**(B)**

3.2.1 Name ONE fixed expense. (2)

3.2.2 Mr Khulu calculated that the value of **A** is R2 202.

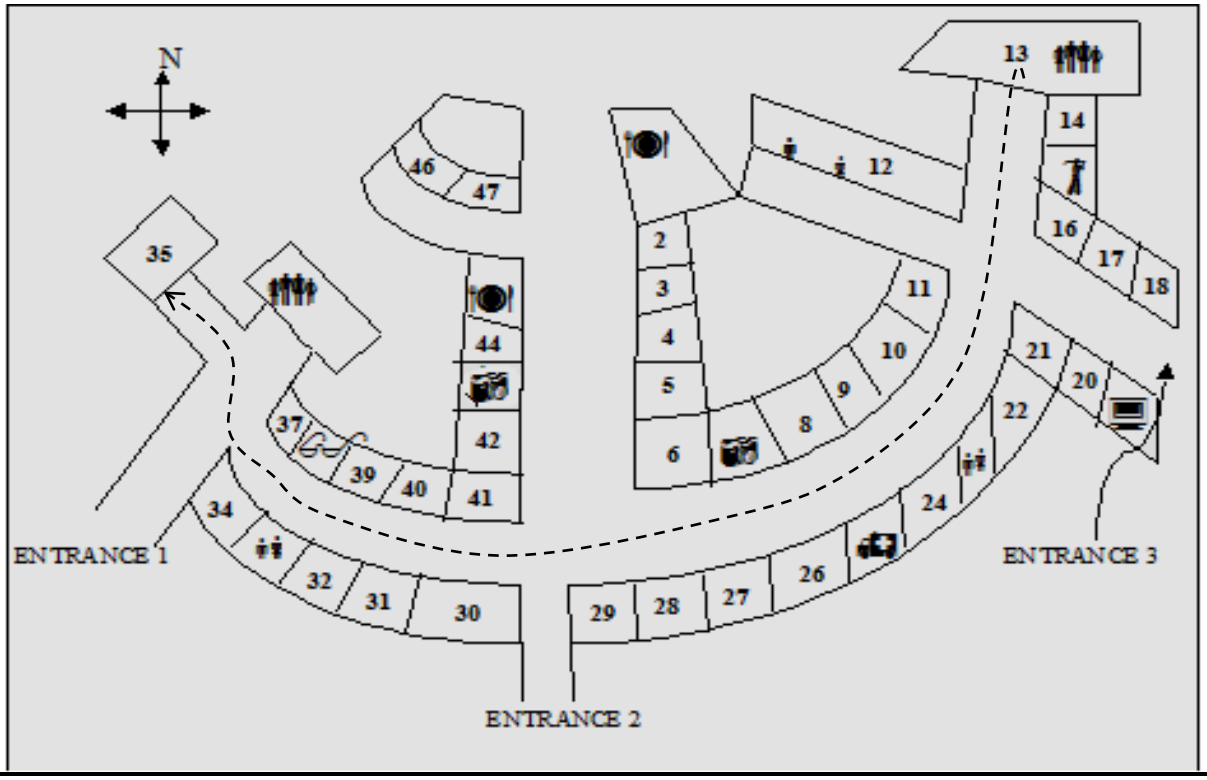
Show how Mr Khulu calculated **A**, the amount of money he anticipates spending on clothes and cellphones in December. (2)

3.2.3 Calculate the total expenditure **(B)**. (2)

3.2.4 How much money does Mr Khulu have left after paying all his expenses? (2)
[20]

QUESTION 4

Below is the layout of stores at Mankinki Mall. The key explains the symbols on the layout.



KEY			
	Restaurant		Sports shop
	Camera shop		Optometrist
	Electrical appliances shop		Family clothing shop
	Pharmacy		Toilets

4.1 How many restaurants are there in this mall? (2)

4.2 Carefully study the numbering system used in this mall.

What is the number of the optometrist's shop? (2)

4.3 Mpho walked from shop 13 to shop 35 along the route shown by the dotted line. The scale used on the layout is 1 : 500.

4.3.1 Explain what the scale 1 : 500 means in terms of the measurements on the plan and the actual distance. (2)

4.3.2 If the scale distance from shop 35 to shop 13 is exactly 180 mm, determine the actual distance in metres that Mpho walked. (3)

4.4 Paul has to meet his girlfriend at Mankinki Mall. He enters the mall through Entrance 1, then turns right. At shop 41 he turns left and finds his girlfriend at the last shop on the right-hand side. What type of shop is this? (2)

[11]

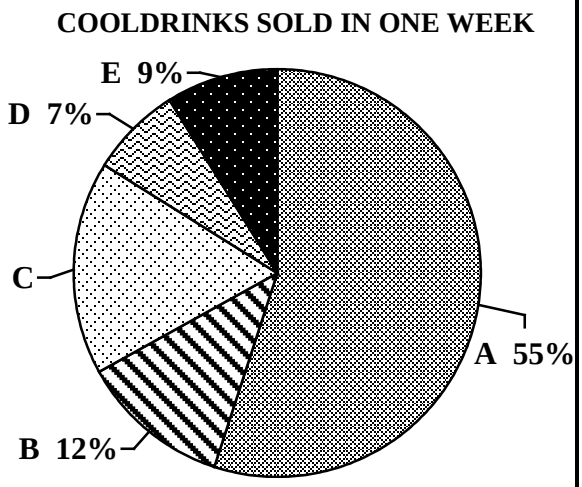
QUESTION 5

5.1 Riaan, the manager of the school tuck shop, keeps a record of the different types of cooldrinks in cans that he sells. He uses this information to plan his order for the next week.

The pie chart below shows the percentage of each type of cooldrink sold in one week.

KEY

Symbol	Type of cooldrink
A	Coca-Cola
B	Lemon Twist
C	Fanta Orange
D	Stoney
E	Other



5.1.1 Name any TWO cooldrinks that could be regarded as 'Other'. (2)

5.1.2 What percentage of the cooldrinks sold are Fanta Orange? (2)

5.1.3 Name the cooldrink of which Riaan sold the most in that week. (2)

5.1.4 Riaan buys cooldrinks in the same ratio as on the pie chart. If he selected a cooldrink at random, what is the probability that he selects a can of Coca-Cola? (2)

5.2 Mrs Sindimba is interested in buying the new lounge suite shown in the advertisement below.



5.2.1 Show that the original price of this lounge suit was R5 499. (2)

5.2.2 Determine the percentage discount offered on this lounge suite, using the following formula:

$$\textbf{Percentage discount} = \frac{\textbf{amount saved}}{\textbf{original price}} \times 100\%$$

(2)

5.2.3 Suppose Mrs Sindimba decides to buy the lounge suit on hire purchase as advertised by the store. Determine the total amount she would have to pay.

Use the following formula:

Total amount paid = deposit + monthly payments × number of months (2)

[14]

TOTAL: 75

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