NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2012

MATHEMATICAL LITERACY P1

MARKS: 100

TIME: 2½ hours

MLITE1

This question paper consists of 8 pages, including an annexure.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of FOUR questions.

2.   Answer ALL the questions.

3.   QUESTIONS 4.2.2 and 4.2.3 must be answered on the attached annexure. Write your name in the space provided on the annexure and hand it in with your ANSWER BOOK.

4.   Number your answers correctly according to the numbering system used in the question paper.

5.   A non-programmable and non-graphical calculator may be used, unless stated otherwise.

6.   ALL calculations and steps must be shown clearly.

7.   ALL final answers must be rounded off to TWO decimal places, unless stated otherwise.

8.   Units of measurement must be indicated where applicable.

9.   Start EACH question on a NEW page.

10.   Write neatly and legibly.

QUESTION 1

1.1   DVD Musika is having a sale. All CDs are reduced by 15% and all DVDs are marked down by a $\frac{1}{4}$. Calculate the following:

     1.1.1   If CDs were marked at R125,00, how much will you pay for them while they are on sale?   (2)

     1.1.2   If all DVDs were R215, calculate what their sale price will be.   (3)

1.2   During the holidays Peter spent 2 hours gardening. He spent 45 minutes mowing the lawn, 20 minutes trimming the edges, 30 minutes weeding and the remainder of the time watering the flowers. What fraction of the time (in the simplest form) did Peter spend:

     1.2.1   mowing the lawn?   (2)

     1.2.2   watering the flowers?   (4)

1.3   Naledi has been asked to bake 50 cheese muffins for a school function. After looking in all her recipe books she found the following recipe:

> ### Cheese Muffins
> (makes 30)
>
> 600 g Flour
> 50 mℓ Baking Powder
> 450 g Grated Cheese
> 60 mℓ Oil
> 750 mℓ Milk

     To assist Naledi, calculate how much she needs of the following to make the 50 cheese muffins required:

     1.3.1   Flour   (2)

     1.3.2   Grated Cheese   (2)

1.4   Peter and Naledi went to George with their parents during the holidays. It took them 6 hours to travel 561 km from King William's Town to George. The car's petrol tank was full when they left King William's Town. When they stopped at George the tank was filled up with 31,17 litres of petrol.

     1.4.1   What was their average speed for the trip? Give your answer to the nearest km.
                 Use the formula:
                 Distance travelled = speed x time   (4)

     1.4.2   Calculate how far they travelled on 1 litre of petrol. Give your answer correct to the nearest km.   (3)

     1.4.3   Calculate the cost of the petrol, if the petrol price was R10,05 when they filled up in George.   (3)

                                                                          [25]

QUESTION 2

Xolani is making and selling wooden coffee tables for a living. The graphs below show his expenses and income for a month.
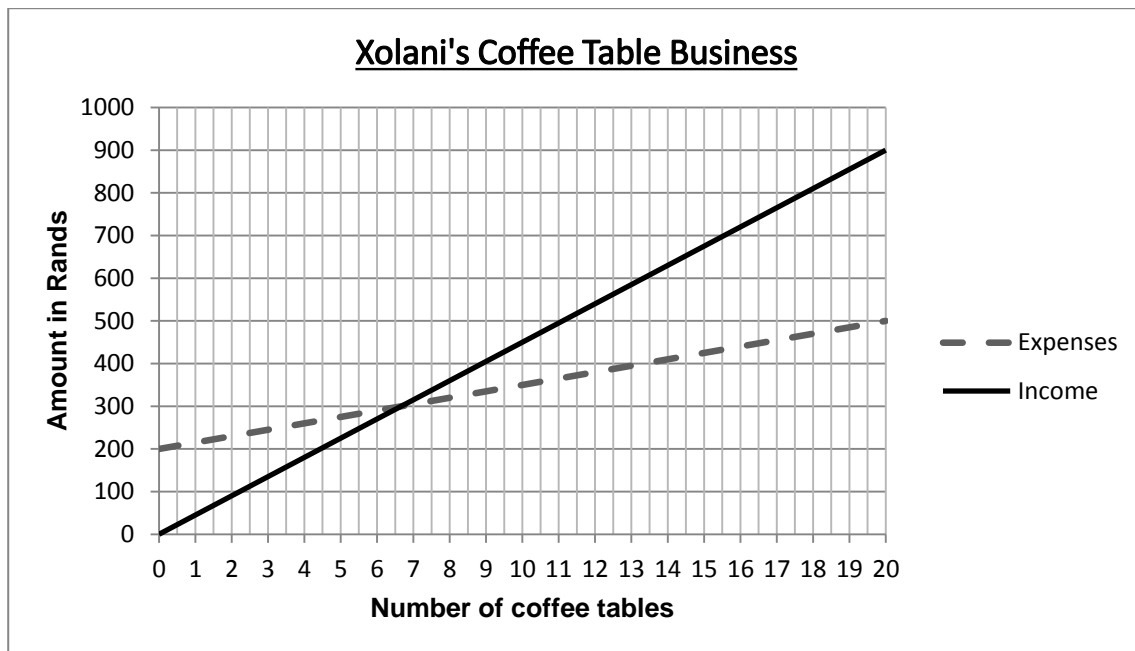
Use the graphs to answer the following questions:

2.1	What are Xolani's minimum fixed expenses even when he has made no coffee tables at all? Say what you think this cost is.	(2)
2.2	Give TWO examples of expenses that Xolani has in making coffee tables.	(2)
2.3	How many coffee tables must Xolani sell in order to break even?	(2)
2.4	What are Xolani's expenses when he makes 20 coffee tables?	(2)
2.5	What is Xolani's income when he sells 20 coffee tables?	(2)
2.6	How much profit has Xolani made when he sells 20 coffee tables?	(3)
2.7	Calculate how much Xolani sells 1 coffee table for.	(3)
2.8	What will be Xolani's income when he sells 15 coffee tables?	(2)
2.9	If Xolani were to sell his coffee tables for R60 what would happen to his profit? Show the reason for your answer using calculations.	(4)
2.10	If Xolani has an income of R585,00, how many tables has he sold?	(2)

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QUESTION 3

Cereal is sold in boxes to prevent it from breaking while being transported and handled. The company has to be careful in the design of the box so as to not use too much cardboard. The picture below show the packaging decided upon and the measurements.
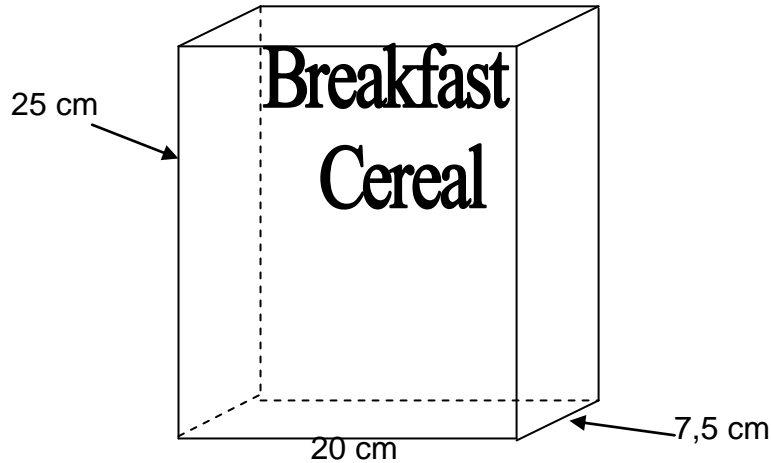

3.1	Draw a net for the cereal box showing all the necessary measurements.	(4)
3.2	Calculate the surface area of the box in cm^2. Remember there are six sides to the box and each side is a rectangular shape. **The area for a rectangle = length x breadth**	(5)
3.3	If cardboard cost 0,06 cents per cm^2, calculate how much the cardboard for 1 box will cost.	(3)
3.4	If printing of the box costs 0,04 cents per cm^2, calculate the cost for printing 1 box.	(3)
3.5	Calculate the volume of the box. Use the formula: **Volume = length x breadth x height**	(3)
3.6	If 7,5 g of cereal has a volume of 1 cm^3, calculate how many grams of cereal will fit into this box.	(3)
3.7	The cereal boxes get cut from rolls of card measuring 2 m by 15 m. The box nets are placed next to each other without any spaces in between. Calculate how many boxes can be cut from one roll of card.	(5)

[26]

QUESTION 4

4.1   A recent survey was done to find out which cars were the most popular in South Africa. The following two graphs show the results obtained in two different suburbs in Johannesburg.
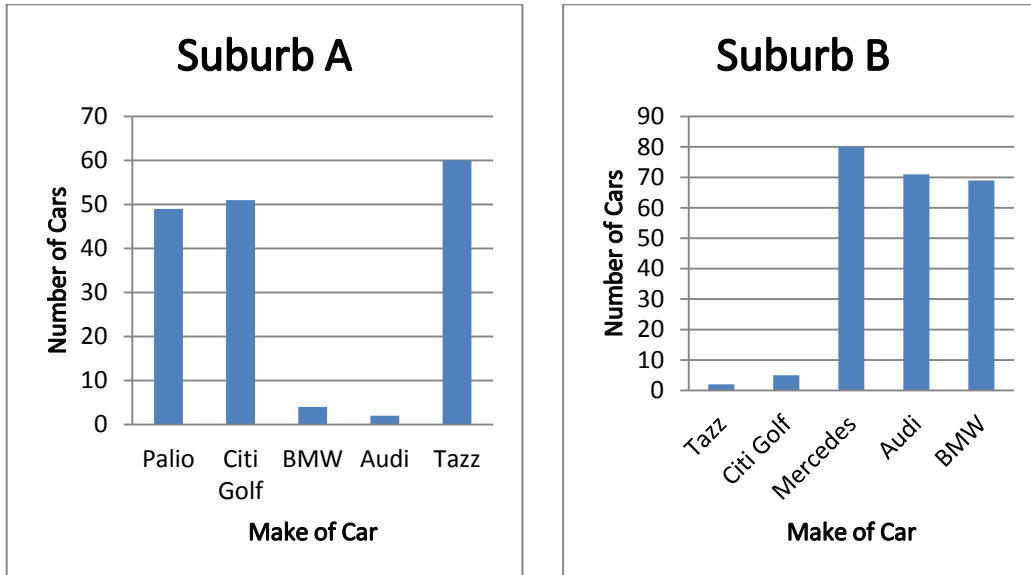
4.1.1   Which is the most popular car in Suburb A?   (1)

4.1.2   Which is the most popular car in Suburb B?   (1)

4.1.3   What can you tell about the income of the residents of the two suburbs?   (2)

4.1.4   If you were to use just the two surveys given, would they give you a true picture of the most popular car in South Africa? Give a reason for your answer.   (2)

4.2   The Grade 11A class was given an English Language test out of 100 last week. These were the results in ranked order:

23	41	42	50	50	51	54	55	56	57
60	61	65	66	66	67	68	69	70	70
70	72	74	76	79	82	85	86	88	

4.2.1   Calculate the following:

       (a)   The mean mark   (3)

       (b)   The mode   (1)

       (c)   The median   (2)

4.2.2   Complete the frequency table below using the table given on the annexure for your answers.

Interval	Frequency
20 – 29	
30 – 39	
40 – 49	
50 – 59	
60 – 69	
70 – 79	
80 – 89	

    (4)

4.2.3   Draw a histogram using the results from your frequency table. Use the grid on the annexure to construct the histogram.   (5)

4.2.4   Which measure of central tendency in QUESTION 4.2.1 a – c tells you the most about how the class performed in the test? Give a reason for your answer.   (2)

4.2.5   Was this test too difficult or too easy? Motivate your answer.   (2)

    [25]

TOTAL: **100**

ANNEXURE

NAME: _____ **GRADE:** _____

QUESTION 4.2.2

Interval	Frequency
20 – 29	
30 – 39	
40 – 49	
50 – 59	
60 – 69	
70 – 79	
80 – 89	

(4)

QUESTION 4.2.3

ENGLISH TEST RESULTS

Frequency	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89

Test Results

(5)