Basic Education

KwaZulu-Natal Department of Basic Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY P1

COMMON TEST

JUNE 2016

NATIONAL SENIOR CERTIFICATE

GRADE 10

MARKS: 50

TIME: 1 hour

This question paper consists of 5 pages and 2 Annexures.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **THREE** questions. Answer ALL the questions.
2. Use ANNEXURE A to answer QUESTION 1.2 and Annexure B to answer question 2.2.
3. Number the answers correctly according to the numbering sytem used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
6. Show ALL the calculations clearly.
7. Round ALL the final answers off to TWO decimal places, unless stated otherwise.
8. Indicate units of measurement, where applicable.
9. Write neatly and legibly.

QUESTION 1

1.1 Thando decided to buy a new toaster.

He found the advertisement alongside in a newspaper.

Daily New Clicks advertisement

Study the advertisement and answer the questions that follow:

1.1.1 Calculate the original price of the toaster. (2)

1.1.2 Determine the percentage discount offered on this toaster, using the formula:

$$\textbf{Percentage discount} = \frac{\textbf{discount amount}}{\textbf{original price}} \times 100\%$$ (3)

1.2 Thando travelled to visit his grandmother. The graph on ANNEXURE A shows his distance travelled against time.

Study the graph on ANNEXURE A and answer the questions that follow:

1.2.1 Write down the time that Thando left home. (2)

1.2.2 State how far away from home was Thando after 30 min. (2)

1.2.3 Write down Thando's average speed in kilometres per hour. You may use the graph or the formula:

$$\textbf{Average speed} = \frac{\textbf{distance travelled in km}}{\textbf{time in hours}}$$ (3)

1.2.4 How long (in hours) did Thando take to drive to his grandmother's home? (2)

[14]

QUESTION 2

2.1 Mrs Zimba catered for a function for 450 people. The ratio of children : adults at the function was 2 : 1.

The adults were served tea while the children were served juice.

Mrs Zimba bought concentrated juice to dilute for the children.

2.1.1 Show that 300 children attended the function. (2)

2.1.2 Calculate the number of adults at the function. (2)

2.1.3 The dilution factor on the concentrated juice indicate 1 : 5 (that is one part juice to five parts water)

(a) Calculate how many litres of diluted juice can be made from 1,5 ℓ of concentrated juice. (3)

(b) Determine how many servings of 200 mℓ juice can be served from 5 ℓ of diluted juice. (3)

2.2 Mrs Zimba received the invoice for goods she ordered for the catering of the function.

The invoice is provided on ANNEXURE B.
Study the invoice and answer the questions that follow.

2.2.1 State the date on which Mrs Zimba placed her order. (2)

2.2.2 Determine the missing values A, B and C on the invoice. (6)

2.2.3 Calculate how many days does Mrs Zimba have to settle the bill. (2)

2.3 Mrs Zimba decorated the cakes she made for the function with red, green and yellow smarties.
One box of smarties contained 10 red, 12 yellow and 18 green smarties only. Mrs Zimba placed them in a bowl. Mrs Zimba placed her hand in the nowl and pulled out a smartie.

Determine the probability that the smartie selected was:

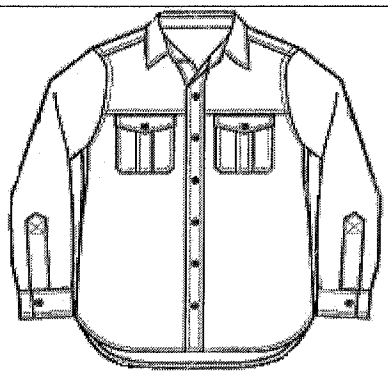
2.3.1 red (3)

2.3.2 white (2)

[25]

QUESTION 3

3.1 Sketched alongside is a scale drawing of a shirt given as a gift.



The scale used to sketch the shirt is 1 : 20

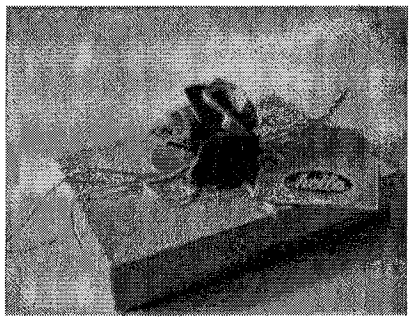
3.1.1 Explain what the scale used to sketch the shirt means. (2)

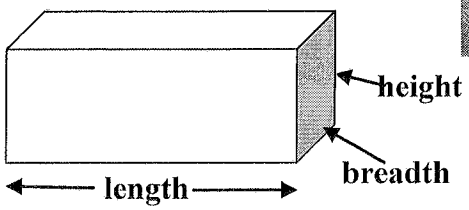
3.1.2 The length of the back of shirt on the drawing is 2,5 cm.

Calculate the actual length of the back of the shirt. (2)

3.1.3 The shirt was packed in a box with dimensions:

- length = 30 cm
- breath = 20 cm
- height = 8 cm





Calculate the surface area of the box using the formula:

Surface area of a rectangular prism
= 2(length × breadth + length × height + breadth × height) (5)

3.2 The bow used as decoration on the gift box cost R24,99 and there are 8 bows in the box.

Calculate the unit price of the bow. (2)
[11]

TOTAL: [50]

ANNEXURE B

QUESTION 2.2

Metro Wholesalers

INVOICE

[PO BOX 1234 Durban 4000]
[Phone: 031 567 6767] [Fax:031 567 6768]
[metrowholesalers@gmail.com]

Billed To:
Mrs Zimba
Zimba Caterers
PO BOX 64
Umlazi
Durban

Invoice Num: 1002345

Invoice Date : 24 March 2016

Payment due Date : 31 March 2016

Description	Unit Price	Quantity	Total
10 kg flour	R89,99	1	R89,99
1 kg margarine	R42,99	2	**A**
2,5 dozen eggs	R39,99	1	R39,99
6 pack Long life milk	R59,99	1	R59,99
100g smarties	R12,99	**B**	R38,97
		Total Due:	**C**

M Pather
Clerk

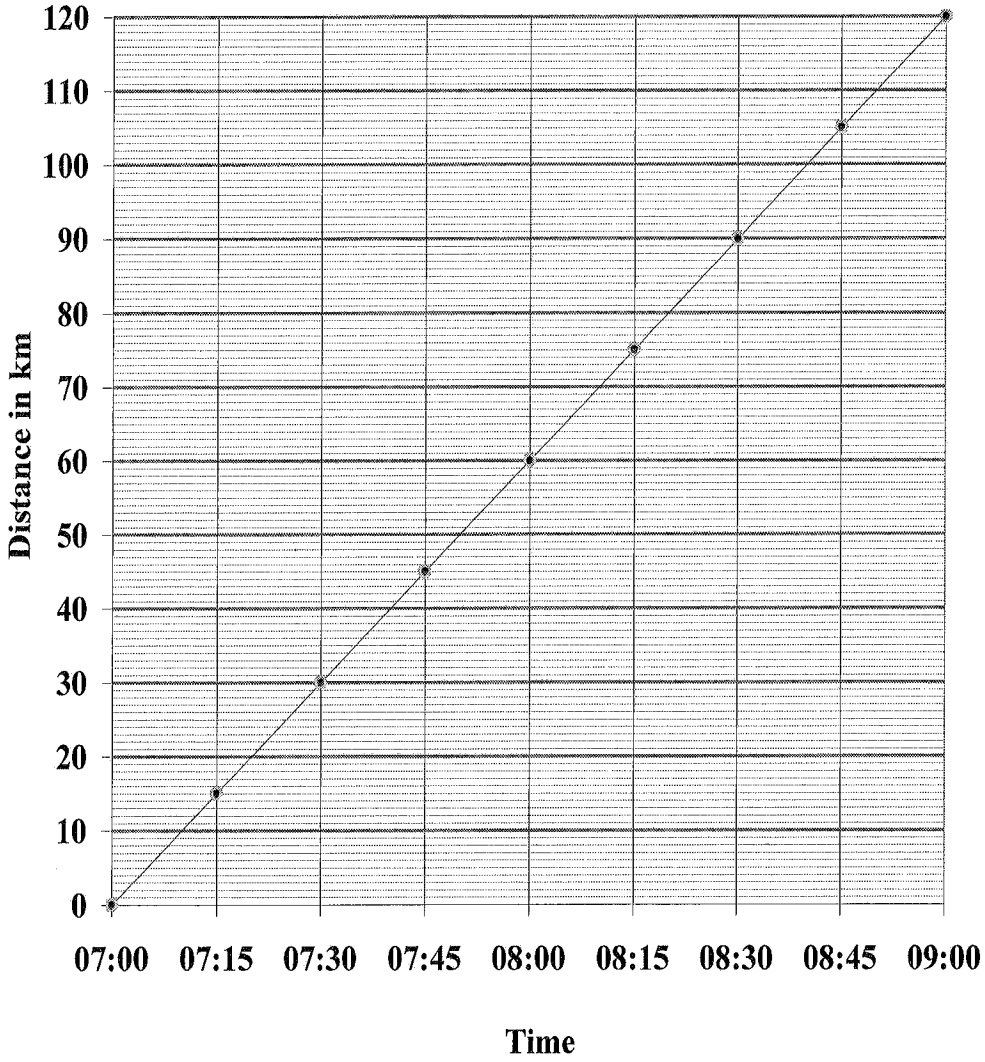
24 March 2016
Date

Thank You for Your Business!

ANNEXURE A

QUESTION 1.2

DISTANCE TRAVELLED AGAINST TIME



TEAR-OFF SHEET

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JUNE 2016

MEMORANDUM

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GRADE 10

MARKS: 50

Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
J	Justification/Reason/Explain
SF	Substitution into a given formula
S	Simplification
RD	Reading from a table OR a graph OR a diagram OR a map OR a plan
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding Off
NP	No penalty for rounding OR omitting units

This memorandum consists of 5 pages.

QUESTION 1 [14]			
Ques	**Solution**	**Explanation**	**Level**
1.1.1	Original price = R99,99 + R50,00 ✓M/A = R149,99 ✓A	1M/A adding correct values 1A solution **Answer only full marks** (2)	L1
1.1.2	**Percentage discount** = $\frac{\textbf{discounted price}}{\textbf{original price}} \times 100\%$ = $\frac{\text{R50,00}}{\text{R149,99}} \overset{\checkmark A}{\underset{\checkmark M}{}} \times 100\%$ = 33,36% ✓CA	1M substitution 1CA values from 1.1.2 1CA simplification (3) **Answer only full marks**	L2
1.2.1	07:00 ✓✓RG	2RG answer only (2)	L1
1.2.2	30 km ✓✓RG	2RG answer only (2)	L1
1.2.3	60 km/h ✓✓✓RG **OR** Average speed = $\frac{30\text{ km}}{0{,}5\text{ h}} \overset{\checkmark RG}{\underset{\checkmark RG}{}}$ = 60 km/h ✓CA	3RG answer only 1RG numerator 1RG denominator 1CA simplification (3)	L2
1.2.4	2 hours ✓✓RG	2RG answer only (2)	L2
		[14]	

QUESTION 2 [25]			
Ques	**Solution**	**Explanation**	**Level**
2.1.1	Number of children $= \frac{2}{3} \times 450$ ✓M/A ✓A $= 300$	1MA ratio concept 1A denominator (2)	L1
2.1.2	Number of adults $= 450 - 300$ ✓M/A $= 150$ ✓CA	1MA correct values used 1CA solution **Answer only full marks** (2)	L1
2.1.3 (a)	Number of litres of concentrated juice = 1,5 ℓ Amount of water $= 5 \times 1{,}5\ \ell$ $= 7{,}5\ \ell$ ✓MA ✓M Number of litres of diluted juice = 7,5 ℓ + 1,5 ℓ = 9 ℓ ✓CA	1M/A ratio 1M adding 1CA simplification (3)	L2
2.1.3 (b)	5 ℓ = 5 000 mℓ ✓C Number servings of juice $= \frac{5\,000}{200}$ ✓M $= 25$ ✓CA	1C conversion 1M dividing 1CA simplification (3)	L2

Ques	Solution	Explanation	Level
2.2.1	24 March 2016 ✓✓	2A answer (2)	L1
2.2.2	**A** $= 2 \times$ R42,99 ✓MA = R85,98 ✓A **B** $= \frac{\text{R38,97}}{\text{R12,99}}$ ✓M = 3 ✓A ✓M **C** = R89,99 + R85,98 + R39,99 + R59,99 + R38,97 = R314,92 ✓CA	1M multiplication 1A simplification 1M division 1A simplification 1M addition 1CA simplification (6)	L1
2.2.3	✓M 31 − 24 = 7 days ✓A	1M subtraction 1A answer (2)	L1
2.3.1	P(red) $= \frac{10}{10+12+18}$ ✓A ✓A $= \frac{10}{40} = \frac{1}{4}$ ✓A **or** 0,25 **or** 25%	1A numerator 1A denominator 1A simplified answer (3)	L3
2.3.2	P(white) = 0 **OR** zero ✓✓A	2A solution (2)	L2
		[25]	

QUESTION 3 [11]			
Ques	**Solution**	**Explanation**	**Level**
3.1.1	Every 1 cm on the diagram represents 20 cm in real life ✓✓A	2J explanation (2)	L1
3.1.2	2,5 cm on sketch = 2,5 cm × 20 ✓M = 50 cm ✓A	1M scale concept 1A solution (2)	L1
3.1.3	**Surface area of a rectangular prism** ✓M ✓A = 2(30 cm × 20 cm + 30 cm × 8 cm + 20 cm × 8 cm) = 2 (600 cm² + 240 cm² + 160 cm²) ✓A = 2 × 1 000 cm² = 2 000 cm² ✓CA ✓A	1M substitution 1A correct values used 1A simplification 1CA solution 1A correct unit (5)	L2
3.2	Unit price = $\frac{R24,99}{8}$ ✓MA = R3,12 ✓A	1MA dividing 1A answer (2)	L1
		[11]	

TOTAL :50