



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

ENQUIRIES: MR D.A. SEWLALL

DATE: 16 MARCH 2017

NATIONAL SENIOR CERTIFICATE: COMMON TEST MARCH 2017: GRADE 12

TO: THE CHIEF INVIGILATOR OF ALL SCHOOLS OFFERING
MATHEMATICAL LITERACY

ERRATA

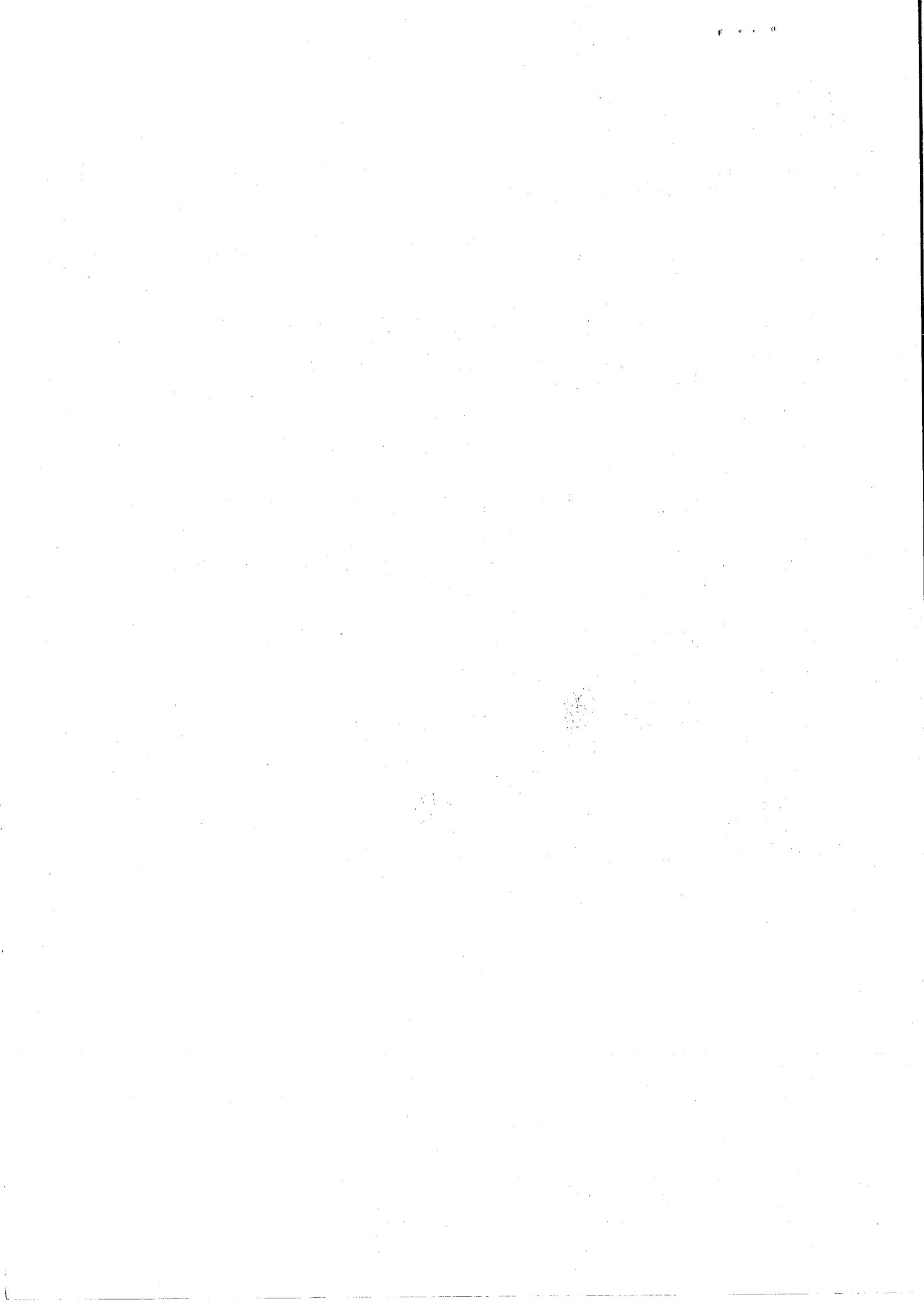
Please take note of the following change:

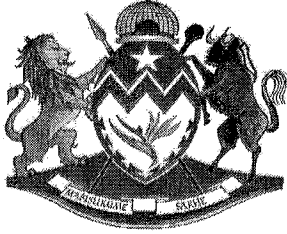
PAGE	NUMBER	ERROR	CORRECTION
7	3.4.2	Another school team from Polokwane province ...	Another school team from Polokwane in Limpopo Province ...
8	4.2	After the first 2 months ...	After the first 4 months ...

Kindly ensure that candidates are informed of the Errata.

MS N.V. MCAMBI
DEPUTY MANAGER
PROVINCIAL EXAMINATIONS SERVICES

16/03/2017
DATE





Education

**KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA**

MATHEMATICAL LITERACY

COMMON TEST

MARCH 2017

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

MARKS: 100

TIME: 2 hours

**This question paper consists of 8 pages and an addendum
with 2 Annexures (3 pages).**

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **FOUR** questions. Answer **ALL** the questions.
2. The addendum consists of two ANNEXURES.
 - 2.1 Answer QUESTION 1.8 on the attached ANSWER SHEET.
 - 2.2 Write your name in the spaces provided on the ANSWER SHEET. Hand in the ANSWER SHEET with your ANSWER BOOK.
 - 2.3 Use the ANNEXURES in the ADDENDUM to answer the following questions:

ANNEXURE A for Question 2
ANNEXURE B for Question 3.3.4
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start **EACH** question on a **NEW** page.
5. An approved calculator (non-programmable and non-graphical) may be used, unless stated otherwise.
6. **ALL** the calculations must be clearly shown.
7. Round off **ALL** final answers appropriately according to the given context unless stated otherwise.
8. Units of measurement must be indicated where applicable.
9. Write neatly and legibly.

QUESTION 1

Themba owns an internet café. He rents a photocopier from Cerox company at a fixed cost of R1 600,00 per month and 30 cents for every copy made thereafter. Themba receives an income of 50 cents for every copy made.

TABLE 1: NUMBER OF COPIES MADE, TOTAL EXPENSES AND TOTAL INCOME

Number of copies made (C)	0	2 000	4 000	6 000	8 000	10 000	12 000
Total Expenses in Rands (E)	1 600	2 200	2 800	A	4 000	4 600	5 200
Total income (I)	0	1 000	2 000	3 000	B	5 000	6 000

1.1 Write down the formula of calculating Themba's expenses in the form:

$$E = \dots + \dots \times \dots \quad (3)$$

1.2 Calculate the values of **A** and **B**. Show all calculations. (4)

1.3 How many copies must Themba make in order to break-even? (2)

1.4 Calculate the profit (in Rands) that Themba will make if 12 000 copies are made.

You may use the following formula:

$$\text{Profit} = \text{Income} - \text{Expenses} \quad (2)$$

1.5 Themba offers a discount of 5% for every order exceeding 15 000. Calculate his income if 18 000 copies are ordered. (4)

1.6 Name the independent variable. (2)

1.7 Themba decides to buy his own photocopier which cost R60 500, 00 in 2016. The price has increased in line with the inflation rate. Determine the inflation rate if the price of the photocopier is R64 493, 00 in 2017.

You may use the following formula:

$$\text{Inflation rate} = \frac{\text{New price} - \text{Original price}}{\text{Original price}} \times 100\% \quad (3)$$

1.8 Draw two graphs showing Themba's income and total expenses on the graph paper in the provided Answer sheet. Label the graphs accordingly. (7)

[27]

QUESTION 2

ANNEXURE A shows a monthly statement for the services received by Mr and Mrs Smith from the Newcastle municipality. Study the statement on Annexure A in the addendum.

NOTE: The amounts shown under 'value' column are VAT inclusive.

Use the information above and ANNEXURE A to answer the following questions:

- 2.1 Give a date on which the statement was issued. (2)
- 2.2 Determine:
- 2.2.1 the number of kilolitres (A) consumed by Smith's family in the given period. (2)
- 2.2.2 the total due (B). (2)
- 2.3 Show by calculations that the VAT inclusive value of R125, 31 due for consuming 12 kℓ is correct. (5)
- 2.4 Give **three names** of easypay outlets where Mr and Mrs Smith can make payment. (3)
- 2.5 Determine the VAT amount on electricity availability. (2)
- 2.6 During the previous month, Mr and Mrs Smith consumed 24 000 litres of water. Convert these litres to kilolitres.
- (NOTE: 1 000 litres = 1 kilolitre) (2)
- 2.7 Determine how much was paid by Mr and Mrs Smith for the services of the previous month and state when was the payment made. (3)
- 2.8 Define the term *opening balance* in this context. (2)
- [23]

QUESTION 3

Mr N. Mthethwa, District Manager of Ehlanzeni district in Mpumalanga Province was concerned about the rate of learner absenteeism in the district. In his PhD thesis he decided to conduct a survey about the reasons and extent of this problem.

- 3.1 One of the methods used by Mr Mthethwa to collect data was interviews. Provide a possible disadvantage of using interviews in this survey. (2)

3.2 **TABLE 2: SUMMARY OF SURVEY RESULTS**

	ERMELO HIGH	MTSHALI HIGH	DUNGA HIGH	TOTAL
HEADACHE	112	A	A	276
STOMACH ACHE	75	$0.75A$	98	B
FLU	225	125	125	475

- 3.2.1 Determine the missing values of **A** and **B**. Show your calculations. (5)
- 3.2.2 If the enrolment (total learners) of Ermelo High was 1380, determine the percentage of learners who were neither ill nor did not participate in the survey. (2)

- 3.3 The Department of Health visited one of the schools which was mostly affected and compiled the table of Body Mass Index of learners. The following table is an extract from the Department of Health's BMI table.

TABLE 3: EXTRACT FROM BMI TABLE

MALES			FEMALES		
Height (cm)	Weight (Kg)	BMI	Height (cm)	Weight (Kg)	BMI
147	60	27.8	169	68	21
155	58	24.1	159	64	25.3
160	78	30.5	175	70	22.9
172	84	28.4	166	70	A
	72	B	179	85	26.5
145	68	32.3	157	68	27.6
148	59	26.9	185	91	26.6

- 3.3.1 Mr Mthethwa classified the data in the TABLE 3 as continuous data. Explain the meaning of continuous data. (2)
- 3.3.2 Calculate the value of A. Use the following formula: (2)
- $$\text{BMI} = \frac{\text{weight in kg}}{\text{height (m)}^2}$$
- 3.3.3 If the mean of BMI of males is 28.05, determine the value of B. (3)
- 3.3.4 Which indicator (measure) of central tendency between the mean and the median best describes weight of females. Justify your choice. (3)
- 3.3.5 Use ANNEXURE B to estimate the height range of a 54.4kg learner to be regarded as normal. (2)
- 3.3.6 The total number of affected learners in this school was 528. The survey indicated that the interquartile range (IQR) of learners' BMI was between normal and overweight. Hence, calculate the number of affected learners who were underweight. (3)

3.4 Learners were advised to adopt healthy habits for example to exercise at least three times a day. Some of them started an athletic club.

3.4.1 On a certain weekend, the athletic team was invited to Mbombela Race meeting. Determine the duration (in **hours**) of the trip if the team left their school at 21:30 and arrived in Mbombela the following day at 03:39. (3)

3.4.2 Another school team from Polokwane Province travelled 560 km. The driver of the kombi ensured that after travelling 200 km, they took a rest of 30 minutes. They arrived in Mbombela at 03:45. Estimate the time at which they departed from their school if the kombi was driven at an average speed of 90km/hour.

You may use the following formula:

$$\text{Average Speed (km/hour)} = \frac{\text{Distance (km)}}{\text{time(hours)}} \quad (5)$$

[32]

QUESTION 4

The traffic during peak hours on the N2 and Inanda Road has forced a group of friends from Stanger to form a lift club to travel to work in Durban. They use Suren's car, Avanza, which can load 8 people including the driver, Suren.

- 4.1 Suren's car consumes petrol worth R1 300 per week.
- 4.1.1 In calculating the contribution to be made by each passenger towards weekly petrol expenses, Suren rounded off the contribution of each person to the nearest R50. Was Suren's charges fair to his friends? Justify your answer by calculations. (3)
- 4.1.2 Do you think Suren benefits for being part of the lift club? Justify your answer. (3)
- 4.2 Suren bought the latest and expensive car radio using his credit card which charges him 18.85% interest per annum. After the first 2 months he received a bank statement showing these figures.

TABLE 4: PART OF SUREN'S STATEMENT

Month end	Previous Balance	Interest added	Amount paid	New Balance
1	R8 900,00	R139,80	R480,00	R8 559,80
2	R8 559,80	R135,17	R480,00	R8 214,97
3	R8 241,97	R129,04	R480,00	R7 864,01
4	R7 864,01	R115,99	R480,00	R7 500,00
5				

- 4.2.1 Show how R139.80 was calculated. (2)
- 4.2.2 Suren was advised that if he pays a lump sum of R4 000, 00, the interest to be added on the 5th month will be more than half of R115,99. Show by calculations that this advice is correct. (3)
- 4.2.3 After the second month Suren took a loan of R8 300 from the loan shark to pay off the credit card balance. He was charged 24.99% simple interest per annum. Calculate the new monthly instalment if the loan was to be repaid in 12 months. (4)
- 4.2.4 Was this a correct decision? Justify your answer. (3)

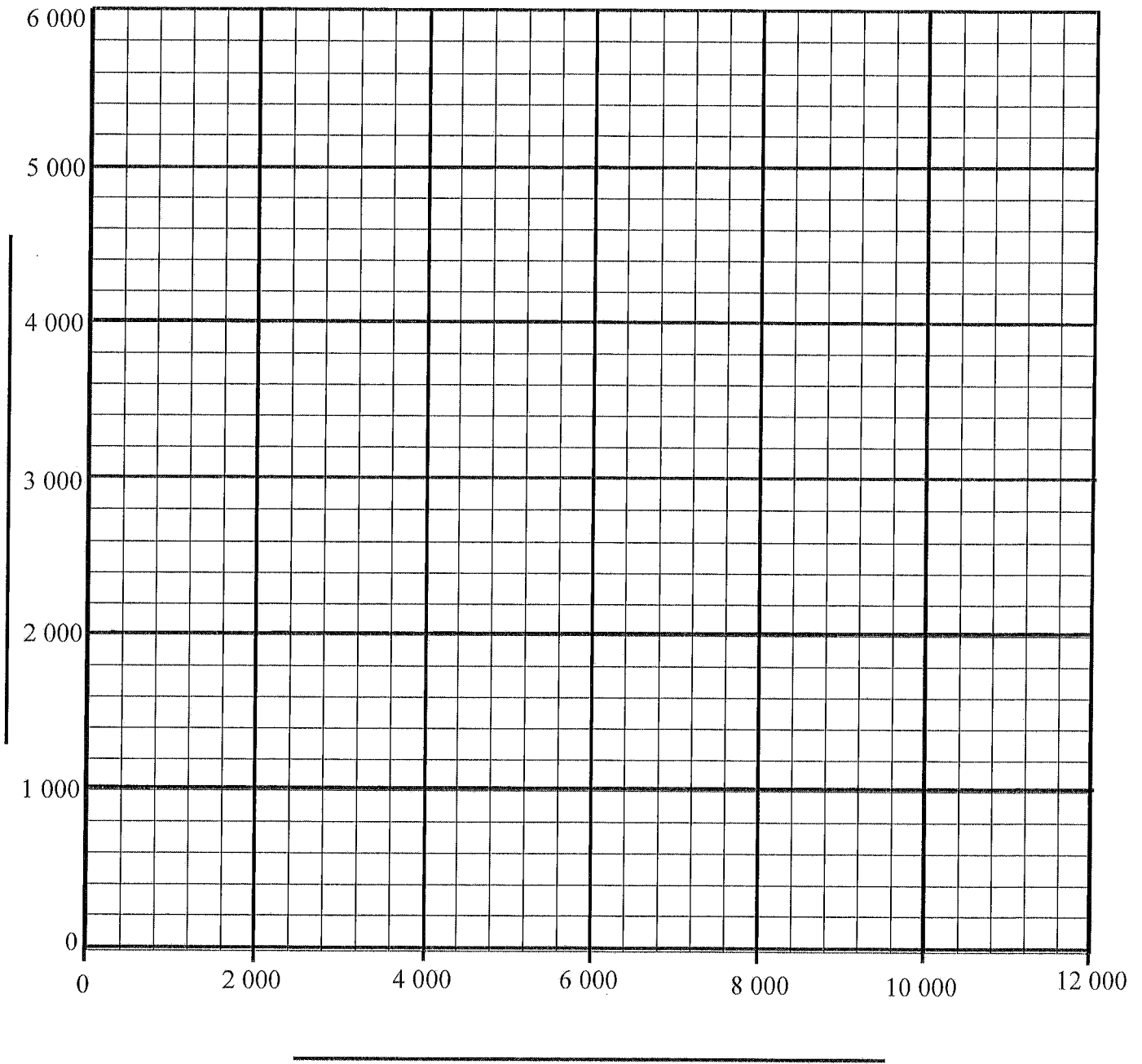
[18]**TOTAL: 100**

ANSWER SHEET

NAME:

Question 1.8

Graph showing Themba's expenses and income







Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY

COMMON TEST

ADDENDUM

MARCH 2017

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

This addendum consists of 3 pages with 2 Annexures.

ANNEXURE A



The Newcastle Municipality Civic Centre, Newcastle
TAX INVOICE P/Bag x 6621, Newcastle, 2940
VAT REGISTRATION NO. 4000791824 034- 3287600 Fax (034) – 3287744

ACCOUNT NO. 180001231016	INVOICE DATE 20161220	INDIGENT DATE 0	NOTIFIED DEMAND 0	ACCOUNT ENQUIRIES (034) – 328 7679/7799	
STREET ADDRESS / STAND AQUAMARINE 119 SUNNYRIDGE NEWCASTLE 2940 ROUTE NUMBER: 36-21000 LOCATION NEWCASTLE TOWN PROPERTY DESCRIPTION 00102908784000		VAT REGISTRATION NUMBER 0		OUTSTANDING CAPITAL ERF .00 HOUSE.00	
		CASH .00		DEPOSIT GUARANTEE .00 HOUSE .00	
		MARKET VALUE 670 000		VALUATION 15 000	RATEABLE VALUE 655 000
		AREA m ² 1 671	ASSESSMENT RATES 6 772,70		REBATE 0%

METER READINGS

Meter No.	Meter Type	Old reading	New Reading	Reading Date	Consumption
PEA 6849	kℓ	3927	3945	20161202	A
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0

ACCOUNT DETAILS

Date	Code	Description	Units	Tariff	Value	
20161220	0100	OPENING BALANCE	0	.00000	1380.27	
20161220	E103	ELECTRICITY AVAILABILITY	0	190.49000	217.16	
20161220	W002	WATER CONSUMPTION	6	9.16000	62.65	
20161220	W002	WATER CONSUMPTION	12	9.16000	125.31	
20161220	W102	WATER AVAILABILITY	0	41.22000	46.99	
20161220	S002	SEWER AVAILABILITY	0	195.78000	223.19	
20161220	R005	REFUSE RESIDENTIAL	0	114.49000	130.52	
20161220	T002	RATES RESIDENTIAL	0	.01034	577.32	
20161201		PAYMENT EBAHBOU	0	.00000	-1380.57	
120+ DAYS	90 DAYS	60 DAYS	30 DAYS	CURRENT	VAT	98.96
.00	.00	.00	.00	B	AMOUNT DUE	B

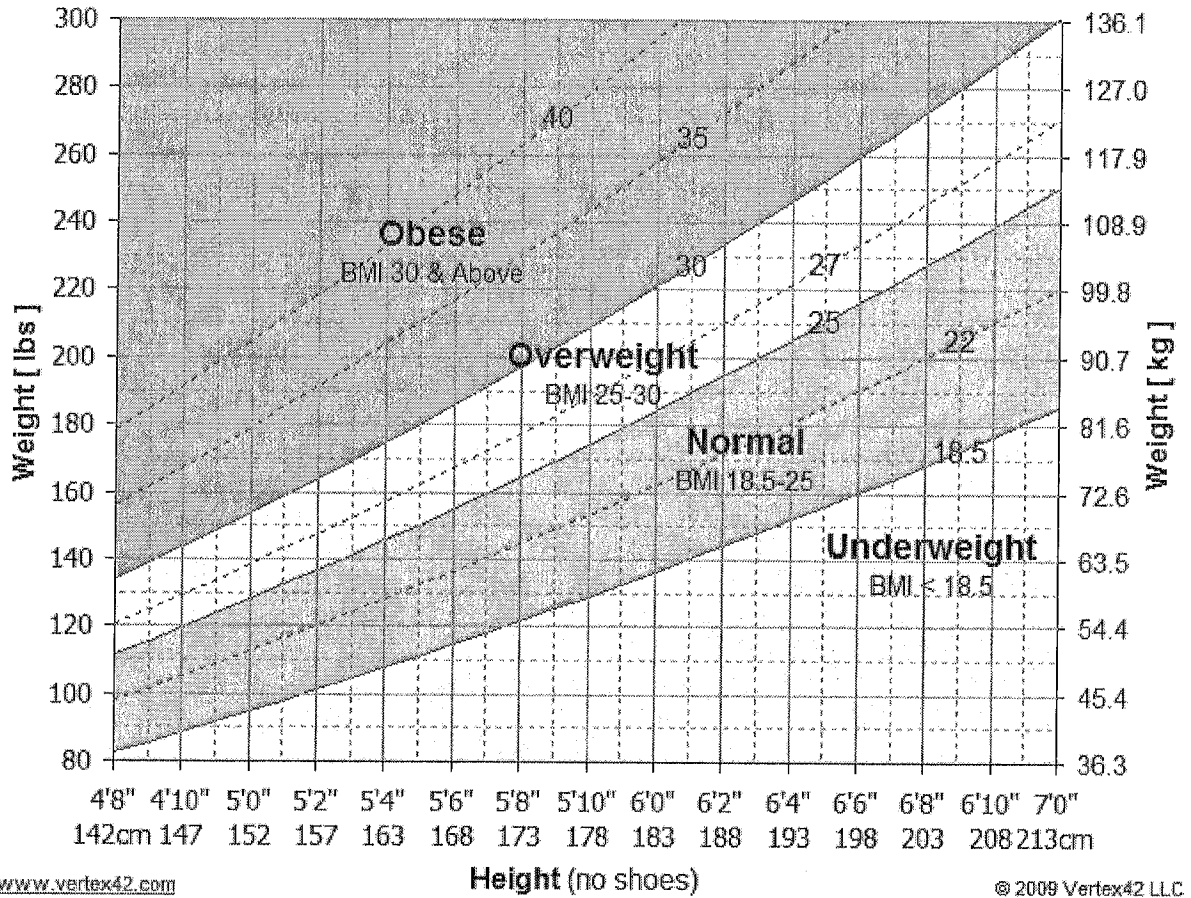
THE ANNUAL TARIFF INCREASE HAS BEEN IMPLEMENTED FOR ALL SERVICES. PAYMENT OF ACCOUNTS CAN ALSO BE MADE VIA THE EASY PAY OUTLETS OF PICK N PAY, SHOPRITE AND WOOLWORTHS.	FINAL DATE FOR PAYMENT 20170106
	RECEIPTS UP TO 20161220

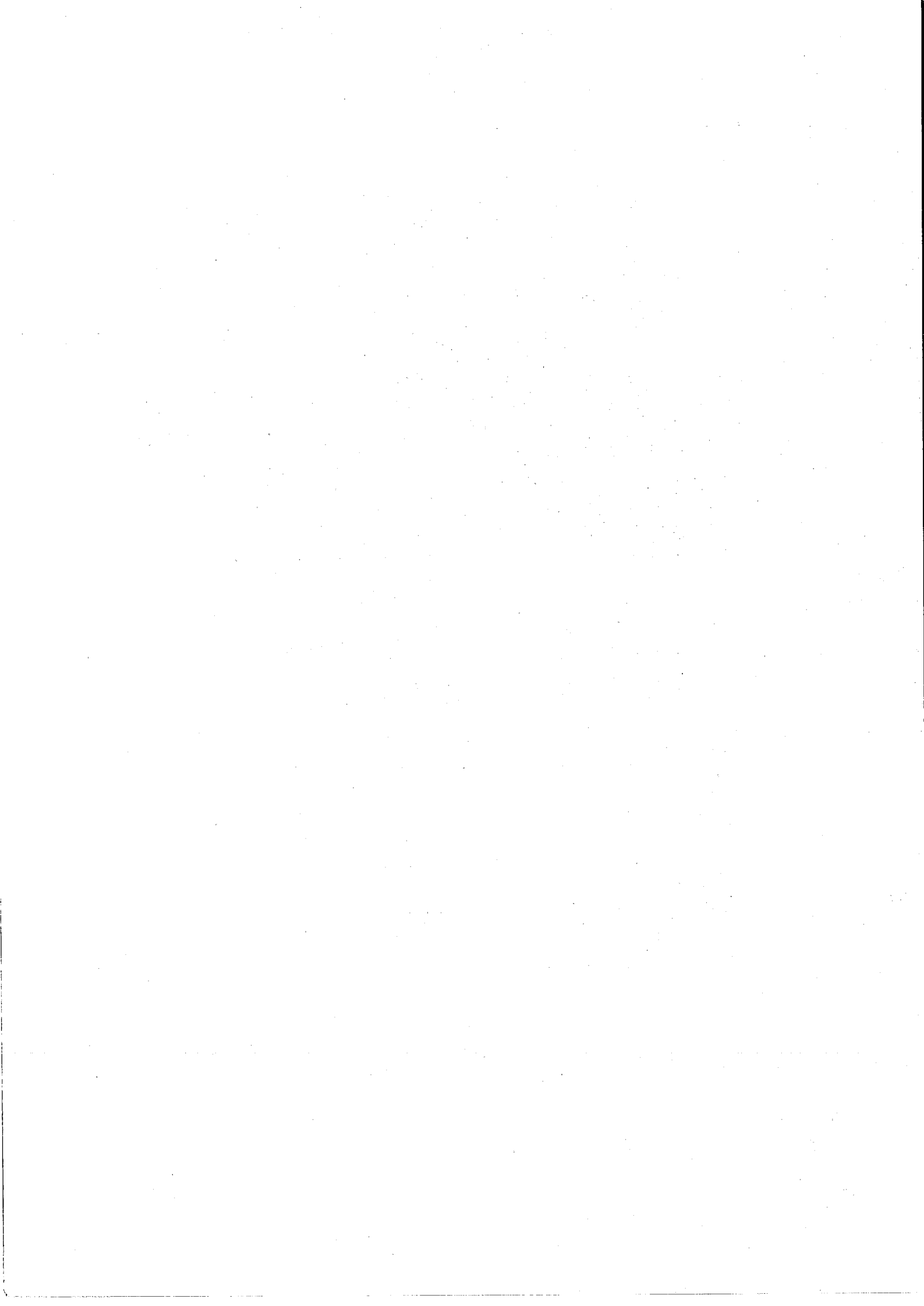
THIS PORTION MUST ACCOMPANY PAYMENT

First National Bank	BRANCH NO.: 27032 ACCOUNT NO.: 53140063149 REF. NO.: 180001231016	NAME AND ADDRESS SMITH BJ & BP P.O BOX 7936 NEWCASTLE 2940
EasyPay>>>>>>>>>>>>	91001001800012310164	ACCOUNT NUMBER 180001231016
		TOTAL AMOUNT DUE: B

ANNEXURE B

BODY MASS INDEX (BMI) CHARTS FOR ADULTS





QUESTION 3 [32]

3.2.2	$\% \text{ (not ill or not participants)} = \frac{1380 - 412}{1380} \times 100\% \checkmark \text{MA}$ $= 70,14\% \checkmark \text{CA}$	IMA concept of % ICA Answer NPR (2)	DH L3
3.3 3.3.1	Continuous data is the data that have decimal commas $\checkmark \checkmark \text{E}$ OR Continuous data because we are working with weight and height. $\checkmark \checkmark \text{E}$ OR Continuous data is quantitative data that can be measured. $\checkmark \checkmark \text{E}$	2E explanation (2)	DH L1
3.3.2	$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)}^2}$ $A = \frac{70 \text{ (kg)}}{1,66 \text{ (m)}^2} \checkmark \text{SF}$ $A = 25,4 \checkmark \text{CA}$	ISF substitution IC converting cm to m ICA Value of A NB: A maximum of 1 mark using cm (2)	DH L1
3.3.3	$\text{Mean} = \frac{\text{sum of values}}{\text{number of values}}$ $28,05 = \frac{170+B}{7} \checkmark \text{MA}$ $B = (28,05 \times 7) - 170 \checkmark \text{S}$ $B = 26,35 \checkmark \text{CA}$	IMA concept of the Mean IS Simplification ICA Answer (3)	DH L3
3.3.4	$\checkmark \text{A}$ Mean because it takes into account all values in the data whereas the median gives the middle value $\checkmark \checkmark \text{J}$	1A Mean 2J Justification (3)	DH L4
3.3.5	$\text{Range} = 173 - 147 \checkmark \text{RG}$ $= 26 \checkmark \text{A}$	IRG Correct values 1A answer Accept 25 (2)	DH L2

QUE	SOLUTION	EXPLANATION	T&L
3.1	Disadvantage of interviews It is practically impossible to interview many learners in the district. $\checkmark \checkmark \text{A}$ OR It usually yield invalid result because most participants will be afraid to disclose their personal information. $\checkmark \checkmark \text{A}$ OR Participants/Respondents may misinterpret questions and give incorrect responses. $\checkmark \checkmark \text{A}$ OR Any other valid disadvantage	2A disadvantage	DH L4
3.2 3.2.1	$2A + 112 = 276$ $A = \frac{276 - 112}{2} \checkmark \text{MA}$ $A = 82 \checkmark \text{A}$ OR $A = 276 - 112$ $A = 164 \div 2 \checkmark \text{MA}$ $= 82 \checkmark \text{A}$	IMA dividing the difference by 2 1A value of A OR IMA dividing the difference by 2 1A value of A AO IMA addition 1CA answer 1R Rounding to a whole number AO	DH L3
	$B = 75 + 0,75(82) + 98 \checkmark \text{MA}$ $= 234,5 \checkmark \text{CA}$ $= 235 \checkmark \text{R}$		(3)

QUESTION 2 [23]

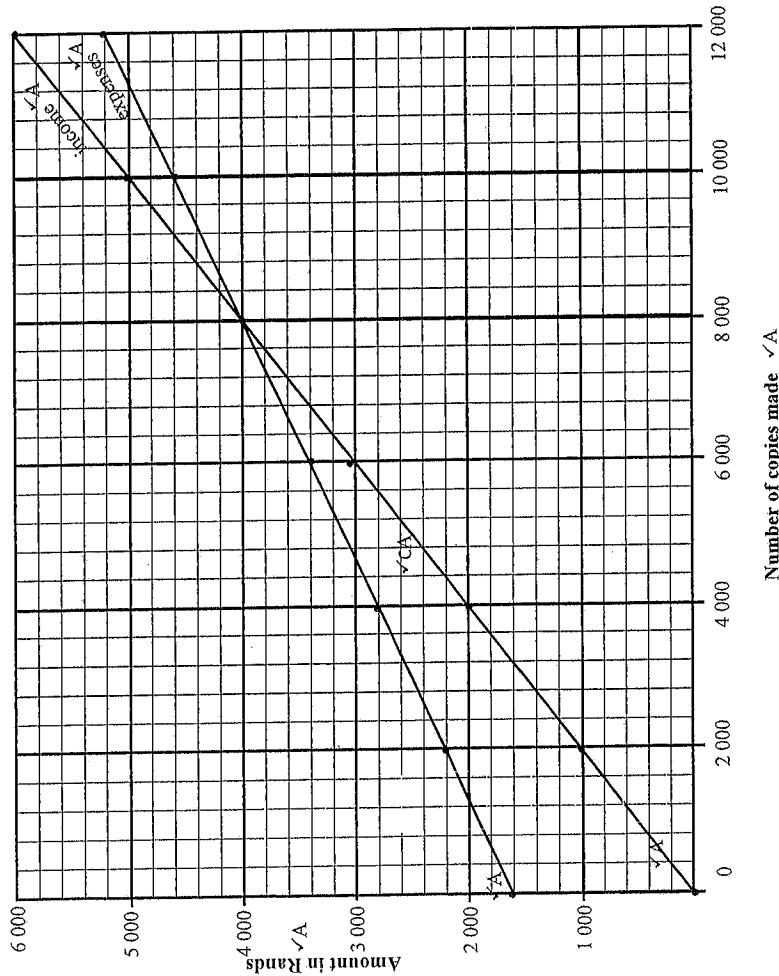
	<p>OR</p> $12\text{ k}\text{€} \times R9,16\sqrt{M}$ $= R109,92\sqrt{A}$ $\frac{14}{114}\sqrt{M} \times R125,31$ $= R15,3888\sqrt{CA}$ $\approx R15,39\sqrt{R}$	<p>1M multiplying 12 k € by R9,16 1A answer</p> <p>1MA dividing 14 by 114</p> <p>1CA for amount 1R rounding</p> <p>3A answer</p>	<p>(5)</p>	<p>F L1</p>
2.4	<p>Pick n pay ✓A Shoprite ✓A Woolworths ✓A</p>		<p>(3)</p>	<p>F L1</p>
2.5	<p>Price excluding VAT = $\frac{R217,16}{1,14}$ = R190,49</p> <p>VAT amount = $R217,16 - R190,49$ = R26,67 ✓A</p>	<p>1M subtracting 1A answer AO</p>	<p>(2)</p>	<p>F L1</p>
2.6	<p>1 000 litres = 1 kilolitre 24 000 litres = kilolitres = $\frac{2400}{1000}\sqrt{M}$ = 24 kilolitres ✓A</p>	<p>1M dividing 24 000 by 1 000 1A answer AO</p>	<p>(2)</p>	<p>F L1</p>
2.7	<p>R1 380,57 ✓A Paid on 20161201 ✓A</p> <p>OR</p> <p>R1 380,57 ✓A Paid on 01/12/2016 ✓A</p> <p>OR</p> <p>R1 380,57 ✓A Paid on 01 December 2016 ✓A</p>	<p>3A answer</p>	<p>(3)</p>	<p>F L1</p>
2.8	<p>Opening balance is the amount that Mr and Mrs Smith owe the municipality for the services rendered the previous month. ✓E</p>	<p>1E amount owed 1E previous month</p>	<p>(2)</p>	<p>F L1</p>
			<p>[23]</p>	

QUE	SOLUTION	EXPLANATION	T & L
2.1	<p>2016.12.20 ✓A</p> <p>OR</p> <p>20161220</p> <p>OR</p> <p>20/12/2016 ✓A</p> <p>OR</p> <p>20 December 2016 ✓A</p>		<p>2A answer</p> <p>F</p> <p>L1</p>
2.2	<p>Number of kilolitres (A) = $3\ 945 - 3\ 927\sqrt{M}$ = 18 ✓A</p>	<p>1M subtracting old from new reading 1A answer AO</p>	<p>F</p> <p>L1</p> <p>(2)</p>
2.2.2	<p>Total due (B) = $R217,16 + R62,65 + R125,31 + R46,99$ + $R223,19 + R130,52 + R577,32\sqrt{M}$ = R1 383,14 ✓CA</p>	<p>1M/A adding all correct values 1CA answer AO</p>	<p>F</p> <p>L1</p> <p>(2)</p>
2.3	<p>12 k€ × R9,16 ✓M = R109,92 ✓A VAT = $R109,92 \times 14\%$ = R15,3888 ✓M $\approx R15,39\sqrt{R}$ Total due = $R109,92 + R15,39$ = R125,31 ✓CA</p> <p>OR</p> <p>12 k€ × R9,16 ✓M = R109,92 ✓A Total due = $R109,92 + (14\% \times R109,92)\sqrt{M}$ = R125,30888 ✓CA $\approx R125,31\sqrt{R}$</p>	<p>1M multiplying 12 k € by R9,16 1A answer</p> <p>1M calculating 14% 1R rounding 1CA answer</p> <p>1M multiplying 12 k € by R9,16 1A answer 1M calculating 14% 1CA answer 1R rounding</p>	<p>F</p> <p>L2</p>

ANSWER SHEET

QUESTION 1.8

Graph showing Themba's expenses and income



2A marks for the labels of axes
 2 A marks for labelling graphs correctly
 1 CA mark for joining points
 1A mark for income graph starting at (0; 0)
 1A mark for expense graph starting at (0; 1600)

	<p>OR</p> <p>Income = 5% of R0,50 × 18 000 ✓M = R450 = R9 000 - R450 = R8 550 ✓A</p> <p>OR</p> <p>Income = 95% of R9 000 ✓M = R8 550 ✓A</p>	<p>IA answer</p> <p>OR</p> <p>1M multiplying R18 000 by 5% of R0,50 IA answer</p>	
1.6	<p>Number of copies ✓✓A</p>	<p>2A answer</p> <p>(4)</p>	F L1
1.7	<p>inflation rate = $\frac{\text{New price} - \text{Original price}}{\text{Original price}} \times 100\%$</p> <p>$= \frac{R 64 493 - R 60 500}{R 60 500} \times 100\%$ ✓SF</p> <p>✓M</p> <p>$= \frac{R 3 993}{R 60 500} \times 100 \%$</p> <p>= 6,6% ✓A</p>	<p>1SF correct substitution</p> <p>1M calculating difference</p> <p>IA answer</p> <p>(3)</p>	F L2
1.8	<p>Graph</p>	<p>2A marks for the labels of axes 2 A marks for labelling graphs correctly 1 CA mark for joining points 1A mark for income graph starting at(0;0) 1A mark for expense graph starting at (0; R1 600)</p> <p>(7)</p>	F L2
			27

QUESTION 1 [27]

QUE	SOLUTION	EXPLANATION	T & L
1.1	$\checkmark A$ $E = R1\ 600,00 + R0,30 \times \text{no. of copies made}$ OR $\checkmark A$ $\checkmark A$ $\checkmark A$ $E = R1\ 600,00 + R0,30 \times C$, where C is the number of copies made	3A answer (3)	F L2
1.2	$A = R1\ 600,00 + R0,30 \times 6\ 000 \checkmark M$ $= R3\ 400,00 \checkmark CA$ $B = 8\ 000 \times R0,50 \checkmark M/A$ $= R4\ 000,00 \checkmark A$	1M multiplying by 6 000 1CA answer 1M/A multiplying correct values 1CA answer (2)	F L2
1.3	$8\ 000 \text{ copies } \checkmark \checkmark A$ OR $0,5C = 1\ 600 + 0,3C \checkmark M$ $0,5C - 0,3C = 1\ 600$ $0,2C = 1\ 600$ $C = 8\ 000 \checkmark A$	2A answer 1M equations 1A answer (2)	
1.4	Profit = income – expenses $= R6\ 000,00 - R5\ 200,00 \checkmark SF$ $= R800,00 \checkmark A$	1SF correct substitution 1A answer AO (2)	F L2
1.5	$\checkmark M$ Income = $18\ 000 \times R0,50 \checkmark M$ $= R9\ 000,00 \checkmark A$ Income after discount = $R9\ 000,00 \times 5\%$ $= R450,00$ $R9\ 000,00 - R450,00 \checkmark M$ $= R8\ 550,00 \checkmark A$ OR Income = $18\ 000 \times R0,50 \checkmark M$ $= R9\ 000,00 \checkmark A$ $\checkmark M$ Income after discount = $R9\ 000,00 - (5\% \times R9\ 000,00)$ $= R9\ 000,00 - R450$	1M multiplying by R0,50 1A answer 1M subtracting 5% 1A answer 1M multiplying by R0,50 1A answer 1M subtracting 5%	F L2



Education
 KwaZulu-Natal Department of Education
 REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY
COMMON TEST
MEMORANDUM
MARCH 2017

NATIONAL SENIOR CERTIFICATE

GRADE 12

MARKS: 100

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD	Reading from a table/ graph/ diagram
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example
J	Justification
R	Rounding off
F	deriving a formula
E	Explanation
AO	Answer only full marks

This memorandum consists of 10 pages.

QUESTION 4 [18]

QUE	SOLUTION	EXPLANATION	T&L
4.1 4.1.1	$\text{Contribution} = \frac{R1300}{7} \checkmark \text{MA}$ $= 185,7 \approx R200 \checkmark \text{CA}$ <p>Suren was fair because he was receiving only R100 more. $\checkmark \text{O}$</p> <p>The car has other expenses over and above petrol. $\checkmark \text{O}$</p>	<p>1MA dividing cost by 7</p> <p>1CA Answer</p> <p>1O Opinion</p> <p>2 marks out of 3 if divided by 8 (3)</p>	F L4
4.1.2	<p>$\checkmark \text{CA}$</p> <p>Yes, because he was getting money for petrol. $\checkmark \checkmark \text{J}$</p>	<p>1CA Yes</p> <p>2J Justification (3)</p>	F L4
4.2 4.2.1	$R139,80 = 18,85\% \div 12 \text{ of } R8\,900 \checkmark \text{M}$	<p>1MA dividing 18,85% by 12</p> <p>1M Multiplying by R8 900 (2)</p>	F L3
4.2.2	$\text{Interest} = R7\,500,00 - R4\,000,00 \checkmark \text{M}$ $= R3\,500,00$ $= \frac{18,85\%}{12} \times R3\,500,00$ $= R54,98 \checkmark \text{S}$ <p>The advice is incorrect $\checkmark \text{J}$</p>	<p>1M subtracting R4 000,00</p> <p>1S simplification of interest</p> <p>1J answer (3)</p>	F L4
4.2.3	$\text{Monthly instalment} = 24,99\% \times R8\,300$ $= R2\,074,17 \checkmark \text{S}$ $\text{Monthly instalment} = (R2\,074,17 + R8\,300) \div 12 \checkmark \text{M}$ $= R864,51 \checkmark \text{CA}$	<p>1MA concept of simple interest</p> <p>1S simplification</p> <p>1M Dividing by 12</p> <p>1CA Monthly instalment (4)</p>	F L3
4.2.4	<p>$\checkmark \text{CA}$</p> <p>It was a correct decision because he was going to use credit card for unforeseen and emergency circumstances $\checkmark \checkmark \text{J}$</p> <p>OR</p> <p>He was going to pay off in 12 months' time</p> <p>OR</p> <p>It was incorrect because he was now paying more than credit card</p>	<p>1CA Correct</p> <p>2J Justification</p> <p>Correct/incorrect but irrelevant justification max 1 mark</p>	F L4
TOTAL: [18]			(3)

3.3.6	<p>$\checkmark \text{A}$</p> <p>Underweight learners = 25% of 528 $\checkmark \text{M}$</p> $= 132 \checkmark \text{A}$ <p>OR</p> <p>$\checkmark \text{A}$</p> <p>Underweight learners = $\frac{1}{4}$ of 528 $\checkmark \text{M}$</p> $= 132 \checkmark \text{A}$	<p>1A concept of IQR</p> <p>1M Multiplying by 528</p> <p>1A Answer (3)</p>	DH L3
3.4 3.4.1	<p>$\checkmark \text{MA}$</p> <p>Hours = $(24 \times 60 - 21 \times 30) + 3 \times 39 \text{mins}$</p> $= 2 \times 30 + 3 \times 39 \text{mins}$ $= 6 \times 09 \text{min} \checkmark \text{S}$ $= 6.15 \text{ hours} \checkmark \text{C}$ <p>OR</p> <p>21:30 – 22:30 1hr</p> <p>22:30 – 23:30 1hr</p> <p>23:30 – 00:30 1hr $\checkmark \text{M/A}$</p> <p>00:30 – 01:30 1hr</p> <p>01:30 – 02:30 1hr</p> <p>02:30 – 03:30 1hr</p> <p>03:30 – 03:39 9 minutes</p> <p>9 ÷ 60 = 0,15 hour $\checkmark \text{S}$</p> $= 6.15 \text{ hours} \checkmark \text{C}$	<p>1MA subtraction</p> <p>1S simplification</p> <p>1C Converting 0.9 minutes to hours (3)</p> <p>1M/Adding hours</p> <p>1S simplification</p> <p>1C Converting 0.9 minutes to hours (3)</p>	M L3
3.4.2	<p>Average Speed $(\text{km}/\text{hour}) = \frac{\text{distance (km)}}{\text{time (hours)}}$</p> $90 \text{ km}/\text{hour} = \frac{560 (\text{km}) \checkmark \text{SF}}{\text{time (hours)}}$ <p>Time (hours) = $560 \text{ km} \div 90 \text{ km}/\text{hour}$</p> $= 6.222 \text{ hours} \checkmark \text{S}$ <p>Departing time = $03:45 - (6 \times 13.333 \text{ minutes} + (2 \times 30 \text{ minutes}) \checkmark \text{MA}$</p> $= 03:45 - 7 \times 13.333 \checkmark \text{M}$ $= 20:31.27 \checkmark \text{CA}$	<p>1SF substituting correct speed and distance</p> <p>1S simplification</p> <p>1MA adding 2 x 30mins or 1 hour</p> <p>1M subtracting duration from arrival time</p> <p>1CA Departing Time (5)</p>	M L4
TOTAL: [32]			(5)

