Basic Education

KwaZulu-Natal Department of Basic Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY P2

COMMON TEST

JUNE 2016

NATIONAL SENIOR CERTIFICATE

GRADE 12

MARKS: 100

TIME: 2 hours

This question paper consists of 11 pages, 1 answer sheet and the addendum with 2 annexures.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **FOUR** questions. Answer **ALL** the questions.
2. Use ANNEXURES and ANSWER SHEETS as follows
   - 2.1 Use ANSWER SHEET to answer question 2.3.3, write your name in the space provided. Hand in the ANSWER SHEET with your ANSWER BOOK.
   - 2.2 Use ANNEXURE A to answer question 4.2
   - 2.3 Use ANNEXURE B to answer 4.3
3. Number the Questions correctly according to the numbering system used in this 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. **ALL** the final answers must be rounded off according to the given context, unless stated otherwise.
8. Units of measurement must be indicated where applicable.
9. Diagrams are NOT necessarily drawn to scale
10. Write neatly and legibly.

QUESTION 1

1. Statistics South Africa (Stats SA) conducts surveys called Quarterly Labour Force Survey (QLFS) about labour market activities of persons aged between 15 and 64. Table 1 below indicates key findings of QLFS for 3 quarters of the year 2013and 2014.

TABLE 1: KEY LABOUR MARKET ACTIVITIES	**Oct -Dec 2013**	**Jul - Sep 2014**	**Oct -Dec 2014**
	Thousand		
Population (Between 15 and 64 years)	35 022	35 489	35 643
Labour Force	**20 007**	**20 268**	**20 228**
Employed	**15 177**	**15 117**	**15 320**
Formal Sector (non agricultural)	10 773	10 843	19 911
Informal Sector (non agricultural)	2 446	4 407	2 448
Agriculture	713	686	742
Private Households	1 244	1 180	1 219
Unemployed	**4 830**		**4 909**
Not economical active (the fraction of working-age population who is either unemployed or do not seek employment)	**A**	**15 221**	**15 415**
Discouraged job seekers		2 514	2 403
Other (not economically active)		12 707	13 012

source: www.statssa.gov.za/publications

1.1 Study **Table 1** and answer the following questions

1.1.1 Express the figure of unemployed as a percentage of the labour force during the last quarter of 2014. (2)

1.1.2 Does the percentage calculated in 1.1.1 justify this newspaper headlines "South Africa has shocking figures of unemployment"? (3)

1.1.3 Calculate the missing values of A (2)

1.1.4 Suggest the method used in collecting this data. Support your answer (3)

1.1.5 Suggest two possible examples of "**other (not economical active people)**". (4)

1.1.6 Determine the probability of a discouraged **not economical active** job seeker from October - December 2014 . Express your answer in percentage form. (2)

1.1.7 Comparing the employed and not economically employed people, a member of one of the opposition parties commented:
"In July - September 2014 the probability of getting **not economical active** is certain than **employed** person out of the labour force". Is this probability justified?
Support your answer by showing calculations (3)

1.2 Table 1 above indicates that the government is encouraging young people to venture into agriculture business, The Department of Agriculture has secured farms for young farmers to alleviate unemployment. Drought has compelled the Department to sponsor farmers with windmills, concrete tanks and irrigation sprinklers as shown below:

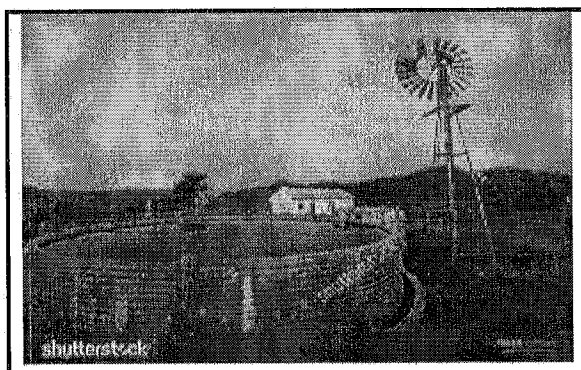


Figure 1 Concrete Tank and the windmill

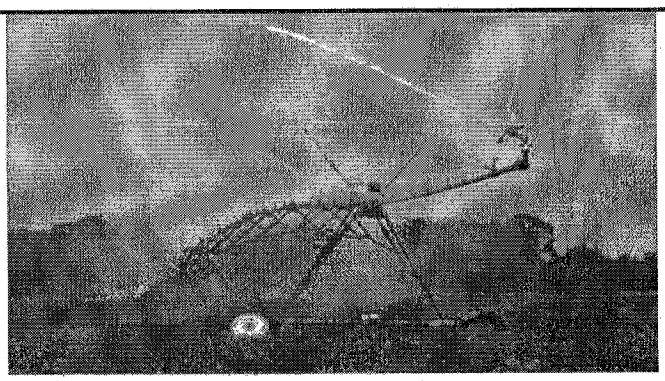


Figure 2 Irrigation splinkler

Mrs Khumalo was one of the lucky farmers to be sponsored. She was told by the irrigation consultant that for her farm she needs a tank with capacity of at least 65 000 liters

1.2.1 Is the tank with an **inner diameter** of 6.12m and the height of 2.398m sufficient for Mrs Khumalo's farm? Use calculations to support your answer.

You may use the following formula
Volume of cylinder = π x (radius)^2 x height, where π = 3.142
1m^3 = 1000 liters (4)

1.2.2 Suppose Mrs Khumalo's irrigation sprinkler sprays 320 liters per minute, and it completes its rotation in 3 hours 22 minutes. Calculate how many liters will be used by the end of rotation. (3)

1.2.3 If the windmill fills up this tank at a an average rate of 2mm per minute. Calculate the height of the incoming water in the tank at the end of rotation.
Use the formula:

$$\textbf{Time(in hours)} = \frac{\textbf{height(in mm)}}{\textbf{average rate(in mm per min)}}$$ (3)

1.2.4 Hence, calculate the amount of water (in liters) filled by the windmill after the end of the rotation. (3)
[32]

QUESTION 2

2. Mrs Khumalo wants to build a goods shed at her farm, the quotation for this house is R30 000. A bank offered her a bond (home loan) to be repaid in 20 years at an interest rate of 14.85%. But her friend advised her to take a 5 micro loans (short term loan) of R6 000 one

2.1 Use your Mathematical Literacy knowledge to assist Mrs Khumalo in choosing the better option.

2.1.1 Determine the total amount paid back to the bank if she had taken a bond. (3)

2.1.2 Hence, determine the monthly installment she would have paid. (2)

2.1.3 Mrs Khumalo decided to pay a monthly installment of R700 to reduce Interest and the duration of the loan. But the bank calculator showed that she would have paid only 43% of the capital or original loan after 6 years. Calculate how much were the interest charges paid after 6 years. (4)

2.1.4 The offer of micro loan was charging 42.5% per annum and the loan of R6 000 was to be paid back in 12 months. Is it true that by taking five micro loans of R6000 each, paying a monthly installment of R712.50, she was going to pay far less than the interest calculated in **question 2.1.3.** Show calculations to justify your answer. (4)

2.2 The Department of Agriculture contracted Bavumile cc to build water tanks in a number of farms. Dimensions of the brick are **200mm long, 80cm high, 90mm wide.** The bricks are binded by using a concrete mortar which is **10mm.** Bricks are laid in pairs.

Figure 3 Water Tank

Figure 4 Brick wall

source: www.google.co.za

2.2.1 Determine the total number of bricks to be laid on the first row of Mrs Khumalo's concrete tank.

You may use this formula
Circumference of the tank = π x diameter (4)

2.2.2 Provide 2 possible reasons why bricks were to be laid in pairs. (4)

2.3 The contactor of the dam was ordered to complete in short time as he can. The following table of values indicate the number of workers and the time

TABLE 2: Number of workers and months building a dam

Number of months	1	2	3	4	5	6
Number of workers	33	17	11	**A**	7	6

2.3.1 Suggest a formula to calculate the number of workers and months required to build this dam. (2)

2.3.2 Use your formula to determine the value of **A** (2)

2.3.3 On the Answer Sheet provided draw a fully labeled graph to illustrate the information on Table 2. (4)
[29]

QUESTION 3

Soni Brothers cc is selling trampolines. Trampolines are imported from Singapore . Prices range from $31 to $120.

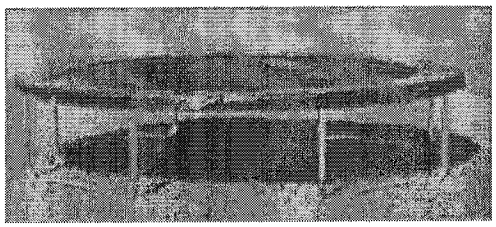


Figure 5 Trampoline

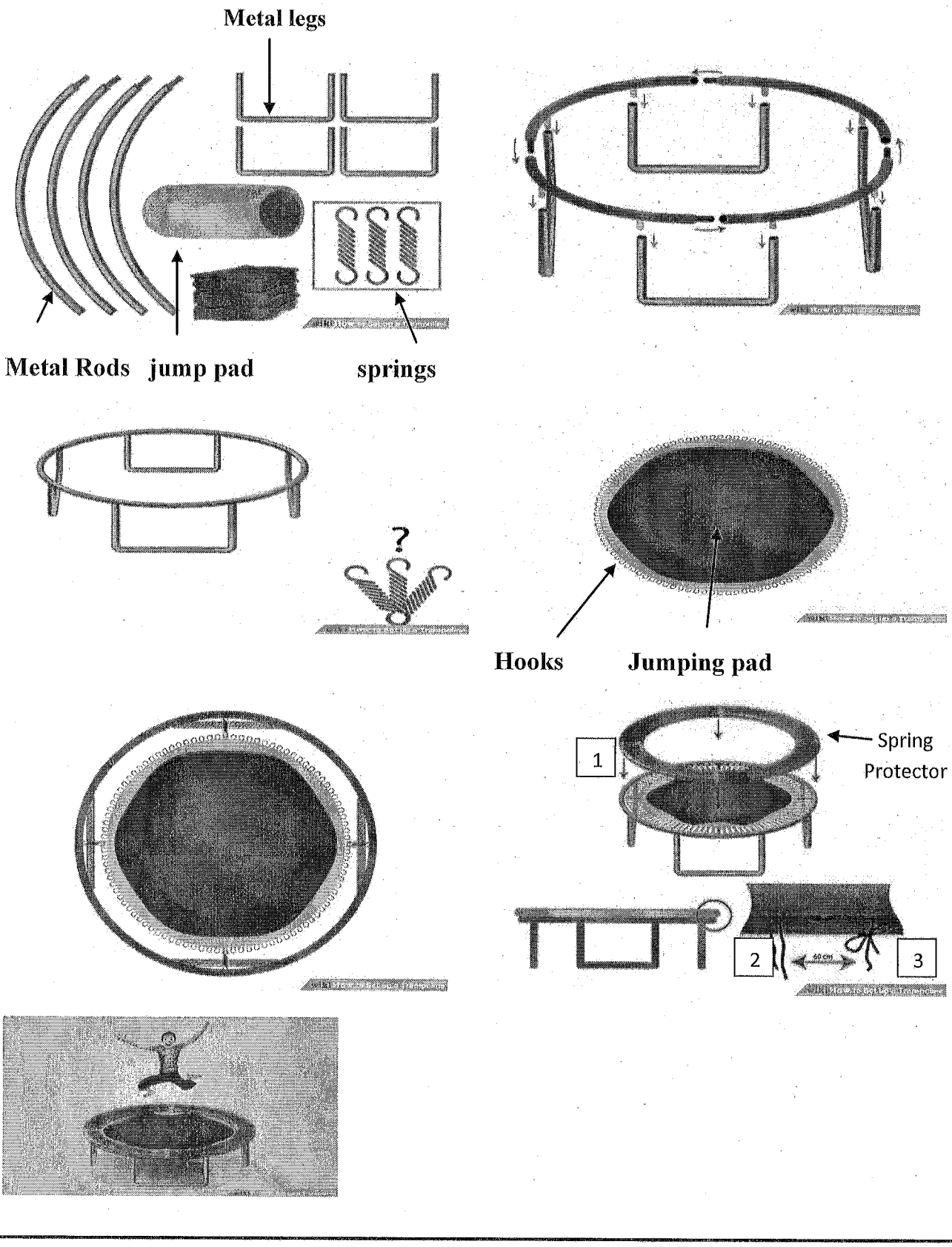
In a certain month Soni Brothers cc imported 200 trampolines with a value of $31 each.

3.1.1 Calculate the total amount paid in South African Rands if the exchange rate was **R14.98 = $1** (3)

3.1.2 Goods imported are liable to pay import duties. Calculate the import duties paid by Soni Brothers cc if rate of import duty for trampolines used at the port entry was :
Import duty = R1 020 + 1.02% of the value of goods (3)

3.2 Mrs van Wyk bought a trampoline. There are no instructions to it but there are diagrammatic instructions to guide (as shown below) her in assembling it.

Diagrammatic Instructions to assemble the trampoline



3.2.1 Upon opening the box containing the trampoline she realized that there was a missing piece. Identify the missing peace and explain how does she know that it is needed in assembling the trampoline (3)

3.2.2 Study the diagrammatic instructions carefully and suggest a step by step instructions to be used by Mrs van Wyk in assembling this trampoline. (3)
[12]

QUESTION 4

4 Mrs van Wyk is very careful about the health of her family. She heard rumours that the egg can sometimes lead to heart disease because of its cholesterol and fat. She surfed the internet and found this information about nutrients in different parts of the egg.

Nutrient Content of a Large Egg

Nutrient (Unit)	Whole Egg	Egg White	Egg Yolk	Nutrient (Unit)	Whole Egg	Egg White	Egg Yolk
Calories (kcal)	75	17	55	Vitamin B6 (mg)	0.071	0.002	0.059
Protein (g)	6.29	3.60	2.70	Vitamin B12 (mcg)	0.65	0.03	0.33
Carbohydrate (g)	0.39	0.21	0.61	Folate (mcg)	24	1	25
Total fat (g)	4.97	0.06	4.51	Thiamin (mg)	0.035	0.001	0.03
Polyunsaturated fat (g)	0.682	0	0.715	Riboflavin (mg)	0.239	0.145	0.09
Monounsaturated fat (g)	1.905	0	1.995	Calcium (mg)	26	2	22
Saturated fat (g)	1.55	0	1.624	Sodium (mg)	70	55	8
Cholesterol (mg)	212	0	210	Potassium (mg)	67	54	19
Choline (mg)	125.5	-	-	Phosphorus (mg)	96	5	66
Vitamin A (IU)	244	0	245	Magnesium (mg)	6	4	1
Vitamin D (IU)	18	0	18	Iron (mg)	0.92	0.03	0.46
Vitamin E (mg)	0.48	0	0.44	Zinc (mg)	0.56	0.01	0.39

Human body needs ff daily

Fats : **1g per kg of body mass for energy**
Proteins : **8g per kg of body mass for growth and repair body tissues**

source: ***www.thehungrymouse.com***

4.1.1 One of her daughters, Ansie wants to keep herself slim because she is modeling . Which part of the egg should she avoid? Justify your answer. (2)

4.1.2 If Ansie's mass is 52.5kg and according to dieticians her body needs at least11 292 kilojoules(kj) daily. Is it wise not to eat the egg at all if 1g of fats gives a human body 38 kilojoules (kj)? Use calculations to justify your answer. (4)

4.1.3 Express as simplest ratio the content of cholesterol to the value of proteins found in egg yolk. (2)

4.1.4 Suggest a possible reason the proteins obtained from the egg yolk and egg white do not equal to the total proteins obtained from the whole egg. (2)

4.2 During December holidays Mrs van Wyk's family always tour different parts of South Africa. Last year, they visited Port Elizabeth. She used the strip map on Annexure A to plan her trip.

4.2.1 Mrs van Wyk used N2 from Port Elizabeth, but she decided to go to East London through R72 for refreshments. Determine the total km she travelled. Show your calculations. (3)

4.2.2 They left Port Elizabeth at 09:15 am. They stopped twice before reaching East London. They spent half an hour for tea and 1,25 hours for lunch. If they were driving at an average speed of 90km/h, at what time were they going to reach East London?

You may use this formula:

$$\textbf{Speed} = \frac{\textbf{distance(km)}}{\textbf{time(hours)}}$$ (6)

4.3 In 2014 they toured Western Cape and booked at the B&B called Auberge Burgundy. Study carefully the map in Annexure B and answer the following questions

4.3.1 In which direction is Auberge Burgundy from Old Harbour Museum. (2)

4.3.2 Mrs van Wyk was called by her friend who was staying at Potting Shed. She wanted to get a lift to go to Fynbos Park. Provide a detailed direction of a shortest route from Old Harbour Museum to Potting Shed. (3)

4.3.3 Use the scale of this map to calculate the straight line distance (in km) of the direction mentioned in 4.3.2 (3)

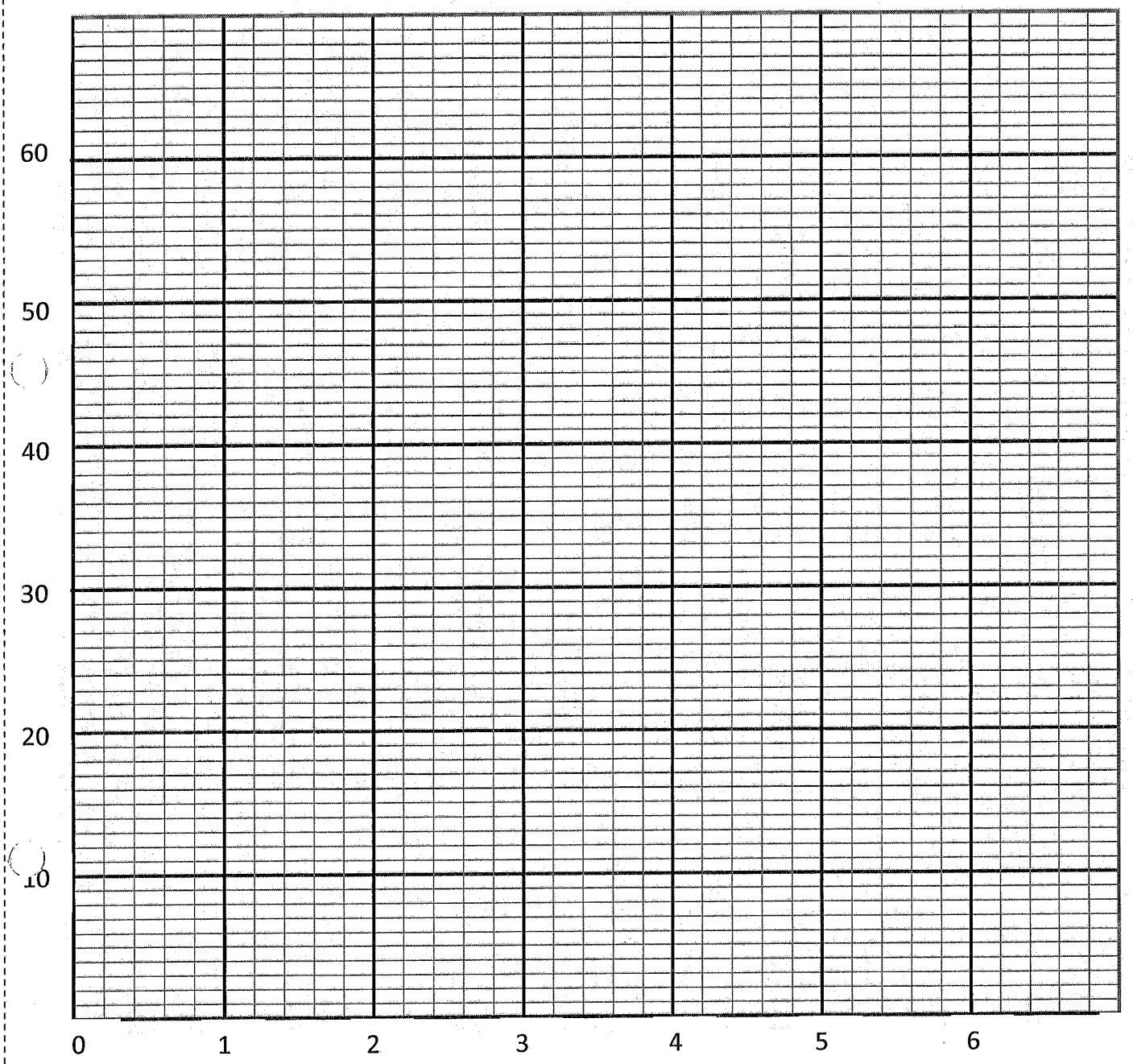
[27]

TOTAL: [100]

ANSWER SHEET

NAME OF CANDIDATE: ..... **GRADE: 12**

QUESTION 2.3.3

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MATHEMATICAL LITERACY P2

ADDENDUM

COMMON TEST

JUNE 2016

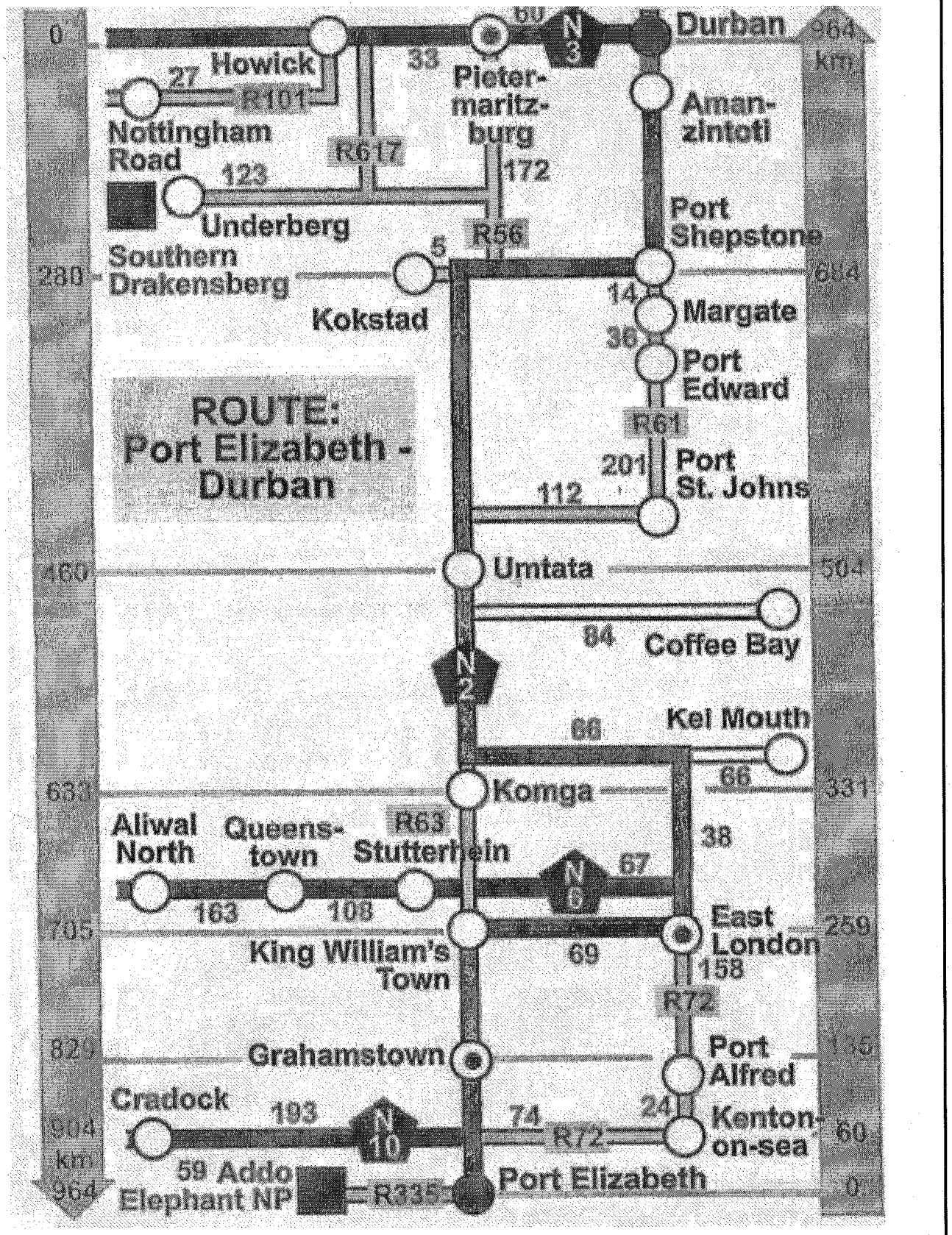
NATIONAL SENIOR CERTIFICATE

GRADE 12

N.B. This Addendum consists of 2 pages.

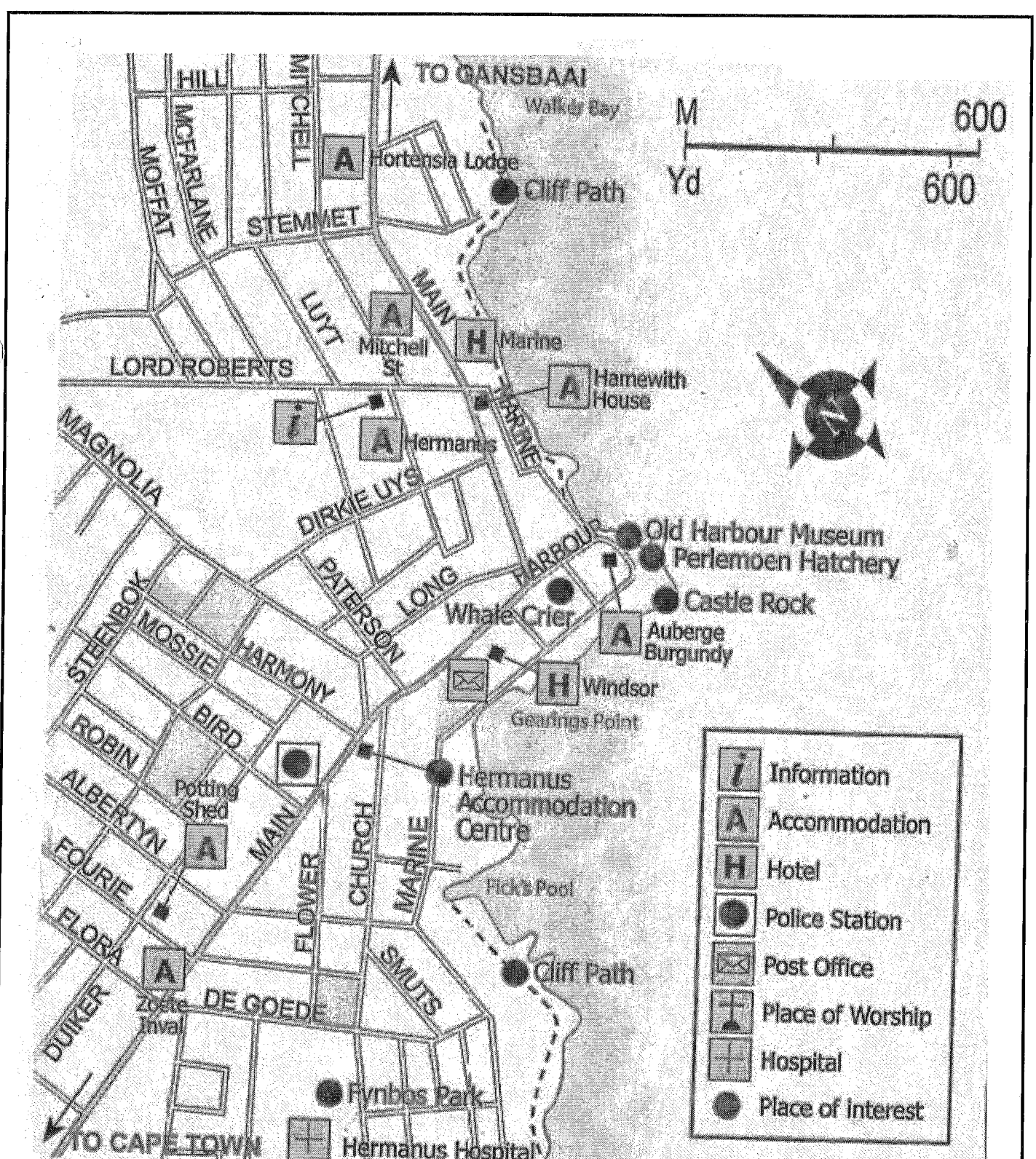
ANNEXURE A

QUESTION 4.2



ANNEXURE B

QUESTION 4.3



Basic Education

KwaZulu-Natal Department of Basic Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY P2

Ammended

MEMORANDUM

COMMON TEST

JUNE 2016

NATIONAL SENIOR CERTIFICATE

GRADE 12

MARKS : ~~100~~ 95

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG	Reading from the table/ reading from the graph
SF	Substitution in the formula
O	Opinion
J	Justication
R	Rounding off
F	deriving a formula
NPR	No Penalty for Rounding

This memorandum consists of 15 pages including 1 Answer Sheet.

QUESTION 1 [32 Marks]

Ques	Solution	Explanation	Level
1.1.1	% (unemployed)= $\frac{4909}{20228}$ x 100%✓M = 24,27%✓A	1M concept of % 1A Percentage **N P R (No penalty for rounding off)** **Answer only full marks** (2)	L2 **DH**
1.1.2	No / YES ✓CA because less than a quarter of labour force is unemployed. ✓✓J **OR** Any other valid justification	1CA No 2J Justification **CA depending on the learners' calculations in 1.1.1** (3)	L4 **DH**
1.1.3	A = 35 022 000 - 20 007 000✓MA = 15 015 000✓CA	1MA subtracting million figures 1CA answer **1 out of 2 mark for omitting three zeros** **Full marks if 000 is written in words (ie. use of "thousand)** (2)	L2 **DH**
1.1.4	Questionnaire ✓A Because a large sample was used✓✓J OR The sample was taken from the whole country✓✓J	1A questionnaire 2J Justification (3)	L2 **DH**
1.1.5	• students in tertiary institutions or high schools✓✓ A • physically challenged people✓✓A • prisoners✓✓A • pensioners ✓✓A • Retirees ✓✓A	2A x 2 Correct examples (4)	L2 **DH**

	• people with long term illnesses✓✓A OR • Any other valid group of people		

Ques	Solution	Explanation	Level
1.1.6	$P\left(\text{discouraged job seeker}\right) = \left(\frac{2403}{15415}\right)$ ✓MA $= 15,59\%$ ✓CA	1 MA concept of probability 1 CA probability in % form (2)	L2 **P**
1.1.7	$P\ \left(\text{not economically active}\right) = \frac{15221}{20268}$ $= 75,10\ \%$ ✓ ✓A No, it is not certain because the probability is less than 100% ✓J	1 A 75.10% 1 A No 1J justification (3)	L4 **P**
1.2.1	V of cylinder = $\pi \times (\text{radius})^2$ x height ✓ SF $= 3.142 \times (3.06\text{m})^2 \times 2.398\text{m}$ $= 70.55\text{m}^3$ ✓CA $1\text{m}^3 = 1000$ liters $70.55\text{m}^3 =$ liters $= 70\ 550.19$ liters ✓C The capacity of the tank is sufficient ✓J	1SF Substituting in a formula 1CA volume 1C Converting m^3 to liters 1J Verification (4)	L3 **M**

Ques	Solution	Explanation	Level
1.2.2	3h22mins = 202mins ✓C 1min = 320 liters 202mins = liters✓M = 202 x 320 liters = 64 640 liters✓CA	1C converting to mins 1M multiplying time and liters 1CA liters (3)	L2 M
1.2.3	**Time(in hours)** = $\frac{height\ (in\ mm)}{average\ \ rate(in\ mm\ per\ \text{min})}$ 3h22mins = $\frac{height(mm)}{2mm\ /1\text{min}}$ ✓SF Height (mm) = 202 x 2 ✓S = 404 mm✓ A **OR** **Time(in hours)** = $\frac{height\ (in\ mm)}{average\ \ rate(in\ mm\ per\ \text{min})}$ 3h22mins = $\frac{height(mm)}{2mm\ /1\text{min}}$ ✓SF Height (mm) = 3.366hours x 2 ÷ 0.016..hours ✓S = 403.92mm =404 mm✓ A	1SF substituting time and rate 1S simplification 1A height **OR** 1SF substituting time and rate 1S simplification 1A height (3)	L3 M
1.2.4	New volume of tank= $\pi \times (\text{radius})^2$ x height = 3.142 x $(3.06\text{m})^2$ x 0.404m✓SF = 11.885....m^2 ✓CA ∴ water (in liters) = 11.885....x 1000 = 11 885.85liters ✓C	1SF substituting with new height 1CA Volume 1C Converting volume to liters (3)	L3 M
		[32]	

QUESTION 2 [29 Marks]

Ques	Solution	Explanation	Level
2.1.1	✓M Amount Paid = R30 000 + (14.85% of R30 000 x 20) ✓MA = R30000 + R4455x 20 = R119 100 ✓A ***CANCEL: BOND FACTOR TABLE NOT GIVEN***	1M concept of % increase 1MA multiplying interest by 20 1A Total Paid (3)	L3 **F**
2.1.2	Monthly instalment = $\frac{R119100}{240}$ ✓M = R496.25 ✓CA **OR** Monthly instalment = $\frac{R119100}{(12 \ x \ 20)}$ ✓M = R496.25 ✓CA ***CANCEL: BOND FACTOR TABLE NOT GIVEN*** **PAPER TO BE MARKED OUT OF 95**	1M dividing total amount paid by 240 1CA installment OR (12 x 20) 1CA installment **Answer only full marks** (2)	L2 **F**
2.1.3	✓MA Interest charges = Total paid (in 6 yrs) - 43% of R30 000 ✓MA = (R700 x 6yrs x 12months) - R12 900 = R50 400 - R12 900 ✓M = R37 500 ✓CA	1MA 43% of R30 000 1MA Multiplying installment by 6yrs and 12 months or R700 by 72 1M subtracting 43% from total paid 1CA Interest paid	**F** L3

		(4)	

Ques	Solution	Explanation	Level
2.1.4	Interest(micro loan)= Total paid - Total loan x 5 ✓MA ✓MA =(R712.50 x12 x 5) - (R6 000x 5) = R42 750 - R30 000✓M = R12 750 ✓CA ~~Yes ✓A~~ ~~she would have paid far less than the bond. ✓ O~~ REMOVE DUE TO EXTRA MARKS ALLOCATED	1MA Multiplying installment by 5yrs1MA multipling by 12 months or R712.50 by 60 1M subtracting loan from total paid 1CA Interest paid ~~1A Yes~~ ~~1 O Verification~~ (4)	L3 L4 **F**
2.2.1	Circumference of the tank = π x diameter =3.142 x 6.12m =19.22.. m ✓A Number of bricks = $\frac{19\,229.04\text{mm}}{200\text{mm} + 10\text{mm}}$ ✓M = 91.57bricks x 2 ✓MA = 183.14 bricks =184 bricks ✓R OR	1A Circumference in meters 1M dividing the cicumference by the length of the brick + mortar 1MA multiplying by 2 1R rounding up (4)	L3 **M**

	Circumference of the tank = π x diameter =3.142 x 6.12m =19.22.. m ✓A Number of bricks = $\frac{19,22904m}{0,200m + 0,010m}$ ✓M = 91.57bricks x 2 ✓MA = 183.14 bricks =184 bricks ✓R		
2.2.2	To make the wall strong✓✓ O The bricks used are thin✓✓ O OR Any other valid reason Pressure of water Prevent seepage of water	2 O x 2 Opinions (4)	L4 **M**
2.3.1	No of workers = $\frac{33}{number\ of\ months}$ ✓✓ F	2F correct formula (2)	L3 **M**

Ques	Solution	Explanation	Level
2.3.2	No of workers $= \frac{33}{4}$ ✓M $=8.25$ ≈ 9 workers✓CA	1M dividing 33 by 4 1CA workers (2) **Answer only: full marks**	L3 **M**
2.3.3	Refer to Answer Sheet	1A for labelling both axes 1A for any 2 (points) co-ordinates plotted correctly 1CA for co-ordinates of 4 and the value of A (note: even if answer in 2.3.2 is incorrect) 1A for a smooth curve (4)	L3 **M**
		[29]	

QUESTION 3 [12Marks]

Ques	Solution	Explanation	Level
3.1.1	R14.98 = $ 1 R = $31 ✓C = R464.38 x 200✓MA = R92 876 ✓A **OR** 200 x $31✓MA = $ 6 200 x R14.98 ✓C = R 92 876✓A	 1C Converting to Rands 1MA Multiplying by 200 1A Answer **OR** 1MA multiplying by 200 1C Converting to Rands 1A answer (3) **Answer only full marks**	L2 **F**
3.1.2	✓SF Import duty = R1 020 + (1.02% of R92 876) = R1 020 + R947.34✓S = R1 967.34✓CA	1SF Substituting by R92 876 1S simplification 1CA Import duty **Answer only full marks** (3)	L3 **F**
3.2.1	Springs, ✓A they are supposed to be 4 ✓J. The next diagram shows a jumping pad hooked onto 4 springs✓J OR The question mark on the diagram indicates that one spring is missing.	1A springs 2J Justification	L4 **M**

	OR items are in sets of four except the springs	(3)	
3.2.2	✓A • **Connect** the 4 metal rods to make a circle and then fix the 4 metal legs in their positions ✓A • **Hook** the springs into hooks found on the edge of jumping pad and then **hook** 4 springs onto the metal rods above each leg • **Place** the spring protector, untie the strings and **tie** or **fasten** them on the metal rods. ✓A **OR** Any other valid point	1A joining 4 metal Rods and fixing 4 legs 1A Hooking springs into hooks and Hooking springs to metal rods 1A place spring protector and tie strings to metal rods (3)	L2 **M**
		[12]	

QUESTION 4 [27Marks]

Ques	Solution	Explanation	Level
4.1.1	Egg yolk ✓A because it has too much fats✓J **OR** The egg yolk has a higher amount of calories. ✓J **OR** The egg yolk has much more carbohydrates. ✓J	1A yolk 1J justification (2)	L4 **M**
4.1.2	1g = 38kj 4.97g = kj = 188.86kj✓C	1C converting g to kj	L2 L4

	It is unwise✓CA Because the fat of the whole egg contributes a small fraction of kilojoules required by her body mass. ✓ ✓J **OR**	1CA unwise 2J Justification (4)	**M**
4.1.3	210mg : 2700mg ✓A ✓A 7 : 90	2A correct simplest ratio **Accept 1 : 12,86 OR 0.08 : 1** **NPR** (2)	L3 **M**
4.1.4	Other proteins are found in other parts of the egg e.g. the egg shell✓✓ O	2 O Opinion (2)	L4 **M**
4.2.1	✓M ✓M Total km = 60 km + (74km+24km +158km) = 60km + 256km = 316km✓A **OR** ✓M ✓M Total km = (964-904 km) + (74km+24km +158km) = 60km + 256km = 316km✓A	1M for adding R72 km to 60 km 1M adding km travelled 1A Total km **OR** 1M subtracting km left from total km 1M adding km travelled 1A Total km (3)	L3 **MP** L3 **MP**

Ques	Solution	Explanation	Level
4.2.2	**Speed** $= \frac{dis\tan ce\,(km)}{time\,(hours)}$ **90km/hour** $= \frac{316\,km}{time\,(hours)}$ ✓SF **Time** $= \frac{316km}{90km/hour}$ ✓A = 3.51 hours ✓C ∴ arrival time = 9h15mins +3hours31mins + ✓C 30mins +1h15mins ✓M = 14:31✓CA	1SF Substituting by 316 km and 90km/hour 1A Time 2C converting .51 and 0.25hrs to mins 1M adding time travelled to 9h15mins 1CA time (6)	L4 **MP**
4.3.1	west✓✓A	2A west (2)	L2 **MP**
4.3.2	• From the Old Harbour, take Harbour Street, then join Main Street towards western direction✓A • Pass 3 streets on your right, namely, Paterson, Harmony and Bird street ✓A • turn right at Albertyn Street and turn left to Duiker street, Potting Shed B &B is on the left✓A FOLLOW LOGICAL ANSWER OF LEARNER	1A from Harbour to Main Street 1A Passing 3 streets 1A turn right to Albertyn and turn Duiker street (3)	L2 **MP**

QUES	Solution	Explanation	Level
4.3.3	Total straight line distance = 106mm 54mm = 600m 106mm = Actual distance Actual distance = $\frac{63600}{54}$ ✓M = 1177.77.... m ∴ distance (in km) = $\frac{1177.77...}{1000}$ ✓C ≈ 1.18km✓CA	1M concept of scale 1C converting meters to km 1CA total km **ACCEPT: 1.16km to 1.18 km** **N P R** **Answer only full marks** (3)	L3 **MP**
		[27]	

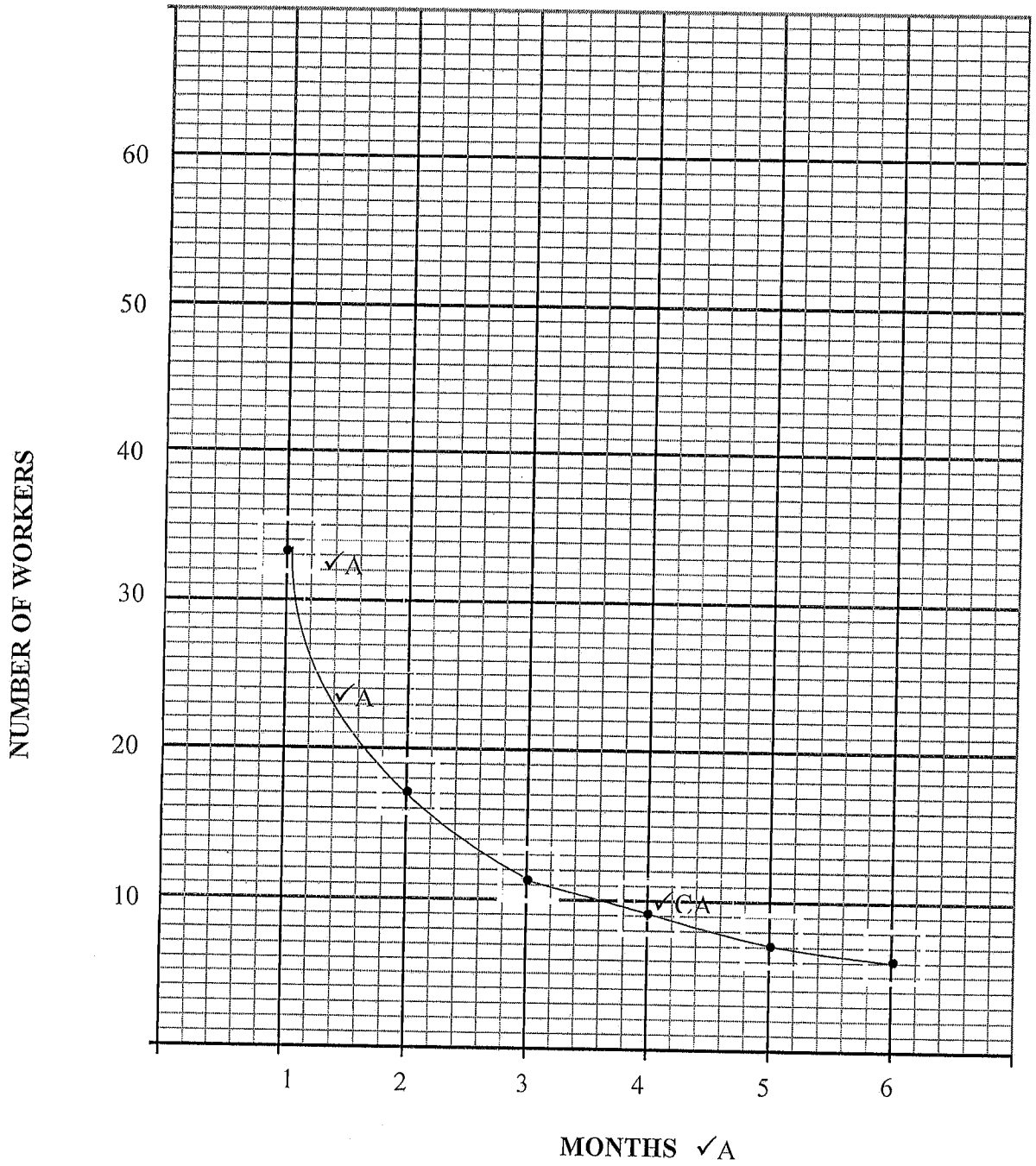
TOTAL: [100]

NB: Mark out of 95 and convert to 100 because the bond factor table in 2.1.1 AND 2.1.2 was not given in the question paper.

ANSWER SHEET

QUESTION 2.3.3

Number of workers and months



1A for any 2 correctly plotted points	1 A for labelling both axes
1A point of 4 and the value of A	1A smooth curve