



education

Department:

Education

PROVINCE OF KWAZULU-NATAL

ENQUIRIES: MS .A.P. MBATHA

DATE: 14 JUNE 2017

NATIONAL SENIOR CERTIFICATE:

COMMON TEST JUNE 2017:  
GRADE 12

TO: THE CHIEF INVIGILATOR OF ALL SCHOOLS OFFERING  
MATHEMATICAL LITERACY P2

ERRATA (question paper)

Please take note of the following changes:

PAGE	NUMBER	ERROR	CORRECTION
8	3.1.3	V. of triangular prism = $\frac{1}{2}$ base x height of the triangle x height of the cylinder	V. of triangular prism = $\frac{1}{2}$ base x perpendicular height x height of the triangular prism
9	3.2.1	Verify by calculations, the validity of the complain if each tank costs R6 900.	Verify by calculations, the validity of the complain if each tank costs R6 900 from the manufacturer.

Kindly ensure that candidates are informed of the Errata.

  
MR D.A. SEWLALL  
ASSISTANT MANAGER  
PROVINCIAL EXAMINATIONS SERVICES

2017/06/14  
DATE

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# Education

KwaZulu-Natal Department of Education  
REPUBLIC OF SOUTH AFRICA

**NATIONAL  
SENIOR CERTIFICATE**

**MATHEMATICAL LITERACY P2**

**COMMON TEST**

**JUNE 2017**

**GRADE 12**

**MARKS:100**

**TIME:2 hours**

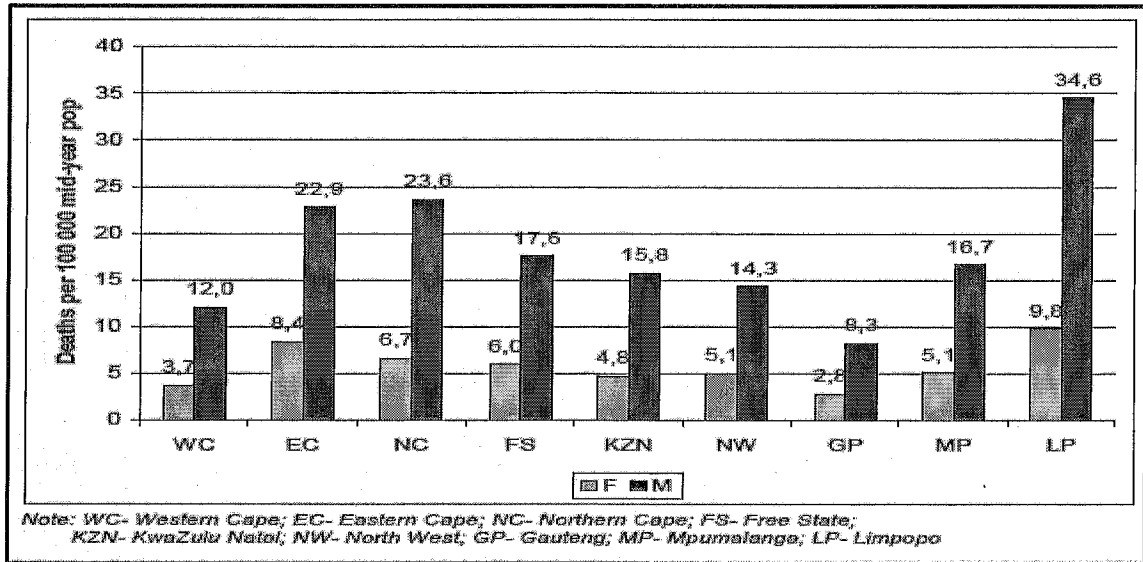
**This question paper consists of 11 pages (including ONE Answer sheet)  
and addendum with 3 Annexures**

**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of **FOUR** questions. Answer **ALL** the questions.
2. Use the ANNEXURES in the addendum to answer the following questions.  
  
ANNEXURE A for QUESTION 1.3  
ANNEXURE B for QUESTION 4.1.1 and 4.1.2  
ANNEXURE C for QUESTION 4.1.3 and 4.1.4
3. Use ANSWER SHEET provided to answer question 1.1.5.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Start **EACH** question on a **NEW** page.
6. An approved calculator (non-programmable and non-graphical) may be used, unless stated otherwise.
7. **ALL** the calculations must be clearly shown.
8. Round off **ALL** final answers appropriately according to the given context unless stated otherwise.
9. Units of measurement must be indicated where applicable.
10. Maps and diagrams are **NOT** necessarily drawn to scale, unless stated otherwise.
11. Write neatly and legibly.

**QUESTION 1**

1.1 The following graph shows average road deaths by province and gender group.

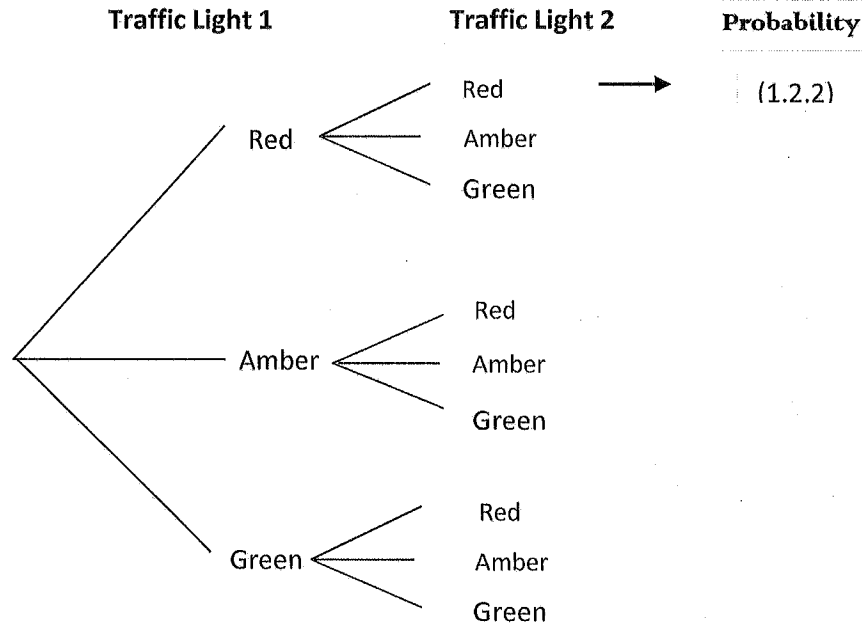


Source: www.zepmeta.co.za

Use the graph above to answer the following questions.

- 1.1.1 If KZN had a population of 13 500 000 people in 2015, according to this graph how many females died through car accidents. (3)
- 1.1.2 Calculate the range of female deaths in all provinces. Show your calculations. (2)
- 1.1.3 The range of male deaths is 26.3. Does the range of male and female tell us anything about the risk of being a female or male driver? (3)
- 1.1.4 Identify and explain TWO trends displayed by this bar graph. (4)
- 1.1.5 Arrive Alive wishes to prioritize its road safety campaign for third quarter of the year to the 2<sup>nd</sup>, 3<sup>rd</sup> and the 4<sup>th</sup> provinces with highest road deaths after Limpopo Province. Use the Answer Sheet to draw a stacked compound bar graph showing deaths in these three Provinces. (5)

- 1.2 It was recommended that towns and cities must maximize the number of traffic lights to control the flow of traffic and speed of cars. Peter represented the colours of traffic lights he crosses every day.



- 1.2.1 How many possible outcomes are there in this tree diagram? (2)
- 1.2.2 Complete the value of 1.2.2 in the tree diagram. (2)
- 1.2.3 What is the probability of the 1<sup>st</sup> light being green and the next being amber. Express your answer in a percentage form. Show your workings. (3)

- 1.3 In 2011, the United Nations published a survey results about life expectancy in all continents. Study the Box and Whisker plot (in ANNEXURE A) which shows life expectancy in 3 continents and answer the questions that follow.

- 1.3.1 In Europe, 15 countries were surveyed. If the Q<sub>2</sub> (quartile 2) of life expectancy years for European countries was 81, determine the number of European countries whose life expectancy is above 81 years. (3)
- 1.3.2 Is it true that Asia has a relatively longer life expectancy compared to the other two continents? Justify your answer. (3)

[30]

**QUESTION 2**

2.1

A Mathematical Literacy educator, Peter is concerned about his finances. He collected The new banking tariffs for his bank, Standard Bank.

Elite Banking	2017	2016
Monthly cheque card fee	R8.25	0
Cash withdrawal – Standard Bank ATM	R1.80 per R100	R4 + 1.2% of value
Cash withdrawal – POS	R1.80	R5
Cash withdrawal – Other ATM	R6.70 + R1.80 per R100	R6.70 + R4 + 1.2% of value
22 more rows		
Standard Bank 2017 fees dissected... <a href="https://www.moneyweb.co.za/industry">https://www.moneyweb.co.za/industry</a>		

**NOTE: POS stands for Point of Sale for example retail shops like Shoprite, Game, Edgars.**

Use the banking tariffs to answer the following questions

- 2.1.1 By what percentage was the bank fee of withdrawing cash at Point of Sale (POS) reduced from 2016 to 2017. (2)
- 2.1.2 Suggest a possible reason why Standard Bank decided to reduce its banking fees. (2)
- 2.1.3 Verify whether it is true that Peter is now (in 2017) paying less bank charges when withdrawing cash of R1000 from another ATM. (5)

- 2.2 Peter is using metered electricity at his home. He also studied the following tariff structure for Eskom Homepower users to understand his electricity costs.

	Energy Charge (Cents per kWh)	Environmental Levy charge (Rand per day)
Block 1 $\leq 600$ kWh	113.89	4.88
Block 2 $>600$ kWh	179.81	4.88

Source: [www.Eskom.co.za/tariffs](http://www.Eskom.co.za/tariffs)

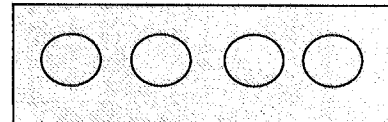
**NB: All charges include VAT of 14%**

- 2.2.1 In January 2016, Peter used 349.45kWh of electricity. Calculate how much was the charge for this electricity. (3)
- 2.2.2 Calculate the VAT paid for electricity calculated in 2.2.1. (2)
- 2.2.3 Peter was charged R1 052.19 for December 2016 electricity usage. The meter reading was 167 571 (at the beginning of the month) and 168 292 (at the end of the month). Show by calculations that the amount charged by Eskom was correct. (5)
- 2.2.4 Provide a possible reason why Eskom increases charge per kWh as consumption increases. (2)
- 2.3 Peter sells ice cream in schools and taxi ranks. He received an order to supply chocolate and ice cream during Sunday School's Christmas party .
- 2.3.1 Ice cream cones are carried in home-made cone trays as shown in the picture below. Determine the circumference of each hole in the tray if it should be **three fifth** of the opening of the cone. The radius of the opening of the cone is 30mm.

**Home made cone tray**



**Top View of the tray**



You may use this formula:

$$\text{Circumference} = \pi d$$

Use 3.142 for  $\pi$

(3)





# Education

KwaZulu-Natal Department of Education  
REPUBLIC OF SOUTH AFRICA

**MATHEMATICAL LITERACY P2**

**ADDENDUM**

**COMMON TEST**

**JUNE 2017**

**NATIONAL  
SENIOR CERTIFICATE**

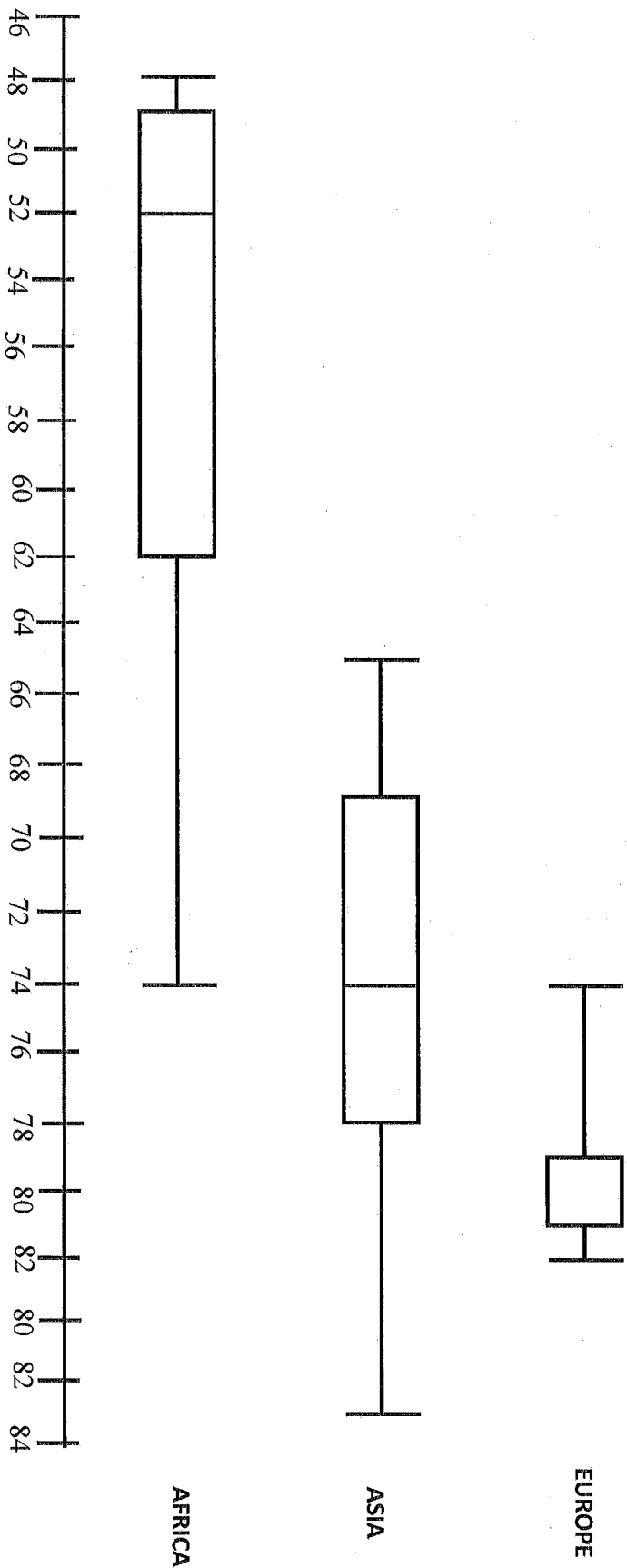
**GRADE 12**

This addendum consists of 4 pages with 3 Annexures.

**ANNEXURE A**

**QUESTION 1.3**

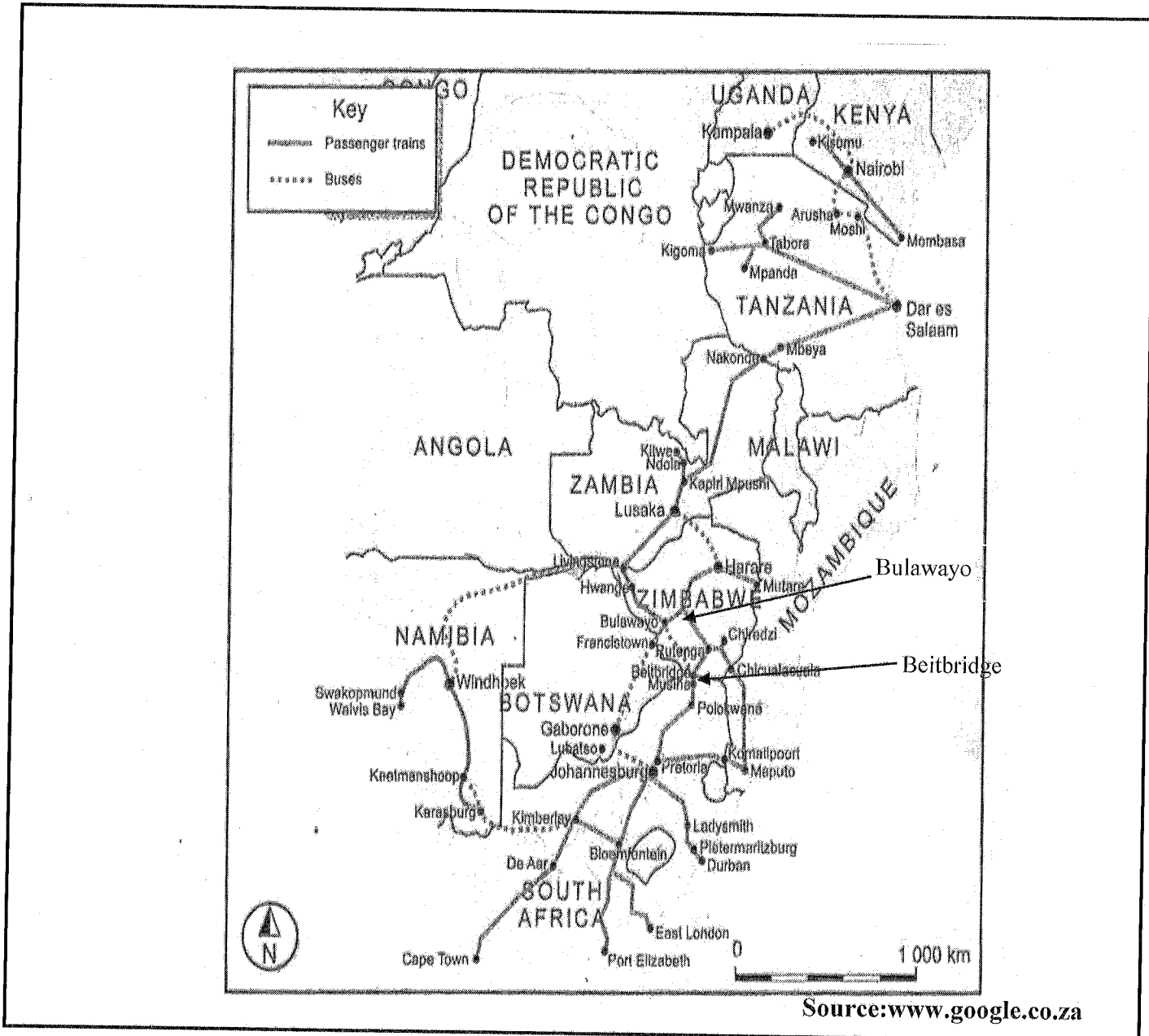
**BOX AND WHISKER PLOTS REPRESENTING LIFE EXPECTANCY IN YEARS OF PEOPLE IN COUNTRIES IN THREE DIFFERENT CONTINENTS**



**ANNEXURE B**

**QUESTION 4.1 1 and 4.1.2**

**HOLIDAY DESTINATIONS IN SOUTHERN AFRICA**



## ANNEXURE C

## QUESTION 4.1.3 AND 4.1.4

## ZIMBABWE TRAINS (TIME SCHEDULE)

Bulawayo To Victoria Falls			Victoria Falls to Bulawayo		
472 km , Runs every day			472, runs every day		
Bulawayo	Depart	19:30	Victoria Falls	Depart	19:00
Dete	Arrive/depart	08:00	Hwange	Arrive/depart	22:22
Hwange	Arrive/depart	03:04	Ete	Arrive/depart	00:50
Victoria Falls	Arrive	09:00	Bulawayo	Arrive	07:00
Bulawayo to Harare			Harare to Bulawayo		
486 km , runs Mon., Thurs., Sat.			486 km , runs Mon., Thurs., Sat.		
Bulawayo	Depart	20:00	Harare	Depart	21:00
Harare	Arrive	08:00	Bulawayo	Arrive	08:00
<p><i>Fares</i>  <i>Fares are very cheap, even judged at the very poor official exchange rate. The one-way 1<sup>st</sup> class sleeper fare from Bulawayo to Victoria Falls is \$12 (£17.50), bedding now \$4 extra. A 2<sup>nd</sup> class sleeper is \$8 (£5) without bedding.</i></p>					
<p><b>Source:www.google.co.za</b></p>					

2.3.2 Kids were given ice cream in cups instead of cones.

Figure 1: Ice cream cones

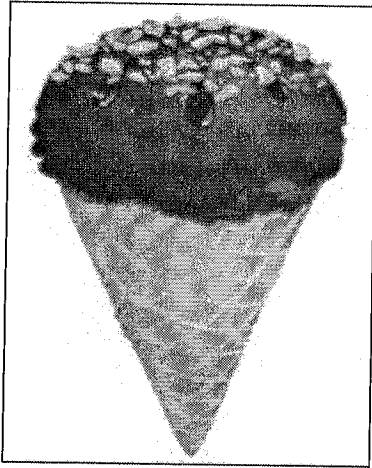
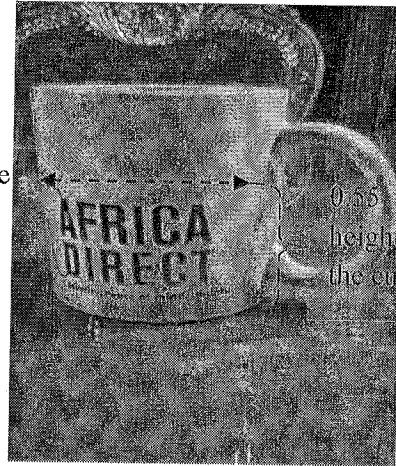


Figure 2: Cups presented to all kids



Level of ice  
cream

0.55 of the  
height  
of  
the cup

The quantity of ice cream in the cone can fill up to 0.55 of the height of the cup.

The dimensions of the cup are as follows:

**Height of the cup is 9.2cm**

**Diameter of the cup is 7cm**

Hence, calculate the volume of the ice cream in the cup

You may use this formula:

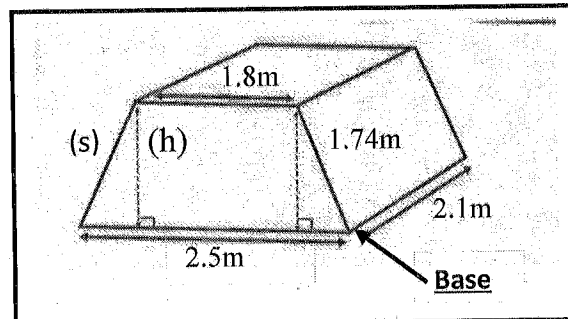
**Volume of the cylinder =  $\pi r^2 h$** , where **h** is height and  $\pi$  is 3.142 (3)

2.3.3 If 1 litre = 1000 cm<sup>3</sup>, determine the number of 5 litre ice cream that is required for 1500 Sunday School children. (5)

[32]

**QUESTION 3**

- 3.1 Most communities rely on water tanks supplied by district municipalities. However these tanks are stolen. A new and unique water tank design has been introduced to some municipalities.

**Cylindrical water tank****New Unique Water tank**

source: [www.google.co.za](http://www.google.co.za)

Use the above information to answer the following questions.

- 3.1.1 The new tank must be placed on a concrete slab.  
Calculate area of the concrete slab.

You may use this formula.

$$\text{Area of rectangle} = \text{length} \times \text{width} \quad (2)$$

- 3.1.2 The new and unique water tank is made of 2 triangular prisms and one rectangular prism. The slanting height of the tank labelled (s) is 1.74m. Hence, use this height to determine the perpendicular height (h) of this tank.

You may use this formula.

$$s^2 = h^2 + (\text{Base})^2 \quad (3)$$

- 3.1.3 The rectangular part of this tank has a volume of  $9.45\text{m}^3$ . Calculate the volume of the 2 triangular prisms to show that the capacity of this tank is double the capacity of 5 000 litre cylindrical tank.

You may use this formula.

**V. of triangular prism =  $\frac{1}{2}$  base x height of the triangle x height of the cylinder**

$$\text{NOTE: } 1\ 000 \text{ litres} = 1\text{m}^3 \quad (5)$$

- 3.1.4 The municipal water truck fills up the cylindrical tank at 4.5 litres per second. Determine how long (in minutes) will the municipal water truck take to fill up the new tank. (3)

3.2 Peter made a profit of R450 000 for supplying the municipality with 30 water tanks.

3.2.1 One of the councillors from opposition parties complained that Peter tripled the original price of each tank. Verify by calculations, the validity of the complain if each tank costs R6 900. (5)

3.2.2 Peter decided to invest R250 000 in a bank that offered him an interest of 11.5% pa, compounding biannually (twice a year). Calculate the total amount he will have after a year. (3)

**[21]**

**QUESTION 4**

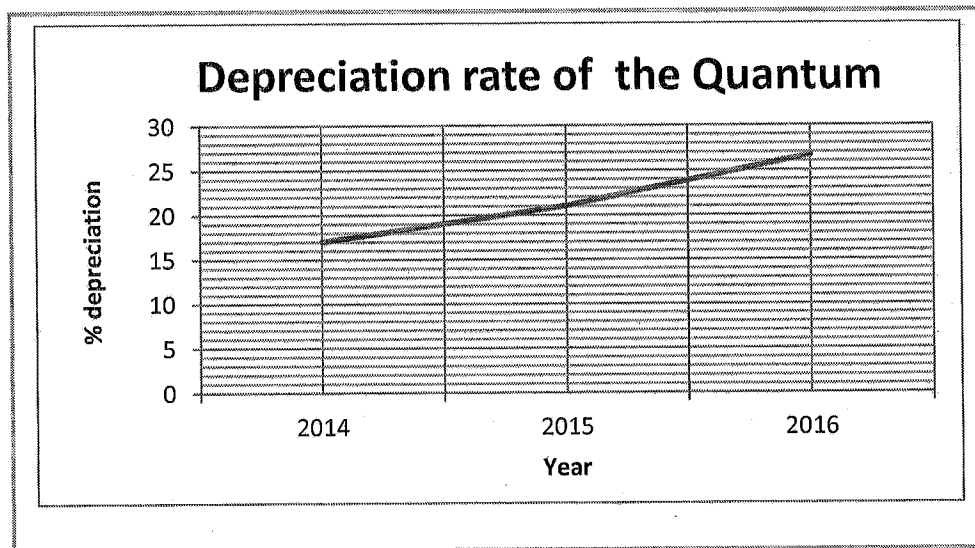
- 4.1 Peter and his family used his Toyota Quantum to tour Zimbabwe for 10 days. In Zimbabwe, they parked their car and used trains to visit places of interest like Victoria Falls.

Use the map and the Train schedule in ANNEXURE B and ANNEXURE C to answer the following questions.

- 4.1.1 What is the general direction of Durban from Bulawayo? (2)
- 4.1.2 Find the straight line distance, (following the train route), from Durban to Johannesburg, then Beitbridge, Francistown and Bulawayo. Use the scale of the map in Annexure B to determine the total distance (in km) travelled from Durban to Bulawayo. Show your workings. (3)
- 4.1.3 One day they took a train to visit Victoria Falls from their hotel in Bulawayo. Use the train schedule in ANNEXURE C to determine the duration (in hours) they spent in Victoria Falls if they left Bulawayo on Monday and returned the next day on Tuesday.

**NOTE: In Victoria Falls they spent 40 minutes travelling to and from the train station.** (3)

- 4.1.4 Suggest TWO possible reasons why Peter decided to visit Victoria Falls by train instead of using his car. (4)
- 4.2 Peter decided to trade-in his Toyota Quantum to buy a new car. He was shocked by a graph showing how his car depreciated over time.



- 4.2.1 Depreciation means the property loses its value over time. Explain why the graph increases whereas the value of the car decreases. (2)
- 4.2.2 Use the graph to estimate the book value of Toyota Quantum in 2015 if it costs R395 999 in 2014. (3)

[17]

**TOTAL: 100**

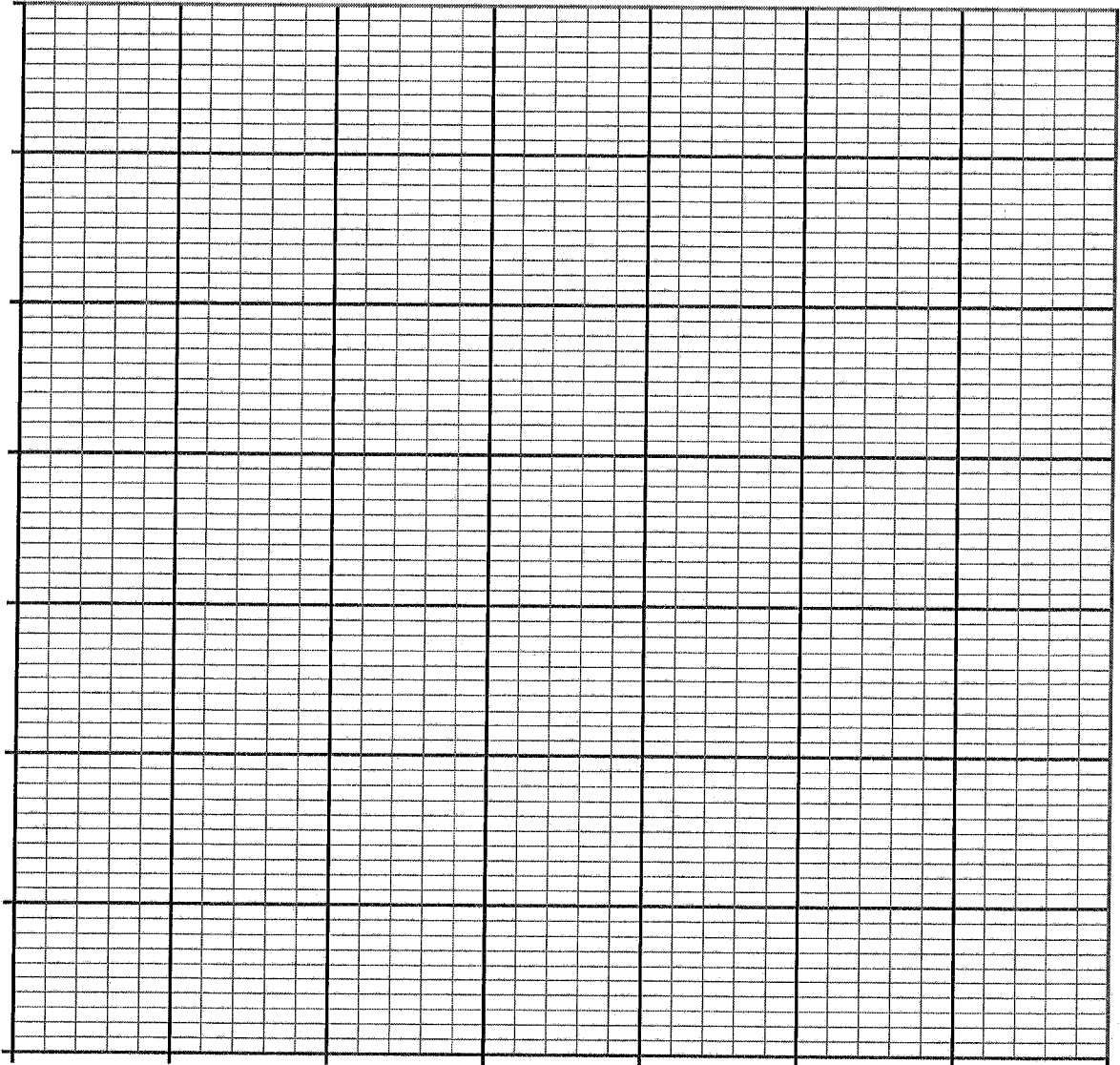


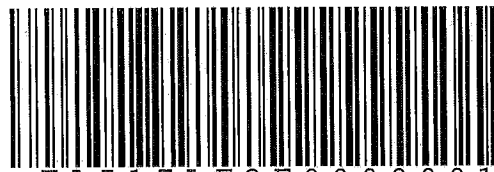
# ANSWER SHEET

NAME OF CANDIDATE: \_\_\_\_\_ GRADE: 12

## QUESTION 1.1.5

PLEASE TEAR ON DOTTED LINE





EA517LF2F0000001



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

**MATHEMATICAL LITERACY P2**  
**JUNE EXAMINATION**  
**MARKING GUIDELINE**  
**2017**

**NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

MARKS: 100

SYMBOL	EXPLANATION
A	Accuracy
AO	Answer Only Full Marks
C	Conversion
CA	Consistent accuracy
E	Explanation
F	deriving a formula
J	Justification
M	Method
MA	Method with accuracy
NPR	No Penalty for Rounding
O	Opinion/ reason/deduction/example
R	Rounding off
R7/RG/RD	Reading from a table/ graph/ diagram
S	Simplification
SF	Correct substitution in a formula
P	Penalty for units, incorrect rounding off, etc.

This memorandum consists of 11 pages.

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**QUESTION 1 [30 MARKS]**

Que	Solution	Explanation	T & L
1.1.1	<p>4,8 Female deaths = 100 000 Female deaths = 13 500 000</p> <p>Female deaths = <math>\frac{4,8 \times 13500000}{100000} \checkmark MA</math></p> <p>Female deaths = 648 <math>\checkmark A</math> <b>OR</b></p> <p>Female deaths = <math>4,8 \times \frac{13500000}{100000} \checkmark M</math></p> <p>= 4,8 × 135 people <math>\checkmark MA</math></p> <p>= 648 people <math>\checkmark A</math></p>	<p>1MA Multiplying correct values</p> <p>1M Dividing by 100 000</p> <p>1A Answer</p> <p>1M Dividing by 100 000</p> <p>1M Multiplying correct values</p> <p>1A Answer</p>	DH L3
1.1.2	<p>Range (Female deaths) = 9,8 - 2,8 <math>\checkmark MA</math></p> <p>= 7 <math>\checkmark CA</math></p>	<p>1MA Subtracting correct values</p> <p>1CA Answer</p>	DH L2
1.1.3	<p>Yes, <math>\checkmark A</math></p> <p>because it shows that there are more male deaths than females <math>\checkmark \checkmark J</math></p> <p><b>OR</b></p> <p>Any other valid justification</p>	<p>1A Yes</p> <p>2J Justification</p>	DH L4
1.1.4	<p>The higher the number of male deaths the higher the number of female deaths <math>\checkmark \checkmark O</math></p> <p>There are more male deaths than female deaths in all provinces <math>\checkmark \checkmark O</math></p> <p><b>OR</b></p> <p>Any other valid trend</p>	<p>2O x2 Opinion</p>	DH L4
1.1.5	<p>"Graph Paper"</p>	<p>1A Stacked graph</p> <p>1A Key /legend</p> <p>1A Any 2 correct bars for males</p> <p>1A Any 2 correct bars for females</p> <p>1A Labelling correctly both Axis</p>	DH L3
1.2.1	<p>9 outcomes <math>\checkmark \checkmark A</math></p>	<p>2A Outcomes</p>	P L2

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1.2.2	$\checkmark A$ $\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$ OR $\frac{1}{9} \checkmark A$ OR $0,11 \checkmark A$	IA 1A 2A Max 1 mark for Red Red	Probability of each Green $\frac{1}{9}$ $\frac{1}{9}$ AO (2)	P L2
1.2.3	$\checkmark A$ $P(\text{green and amber}) = \frac{1}{9} \times 100\% \checkmark M$ $= 11,11\% \checkmark A$	IA IM IA Max 1 mark for Red Red	Probability Multiplying by 100% Answer (3)	P L3
1.3.1	No of countries = 15 $\therefore$ Median = 8 <sup>th</sup> score $\checkmark A$ $= 7$ countries $\checkmark A$ OR $\checkmark A$ Countries = 50% x 15 $\checkmark M$ $= 7,5$ $\approx 7$ countries $\checkmark A$	IA 8 <sup>th</sup> score 2A answer 1A IM 1A answer AO 1A 2J	Concept of Q2 Finding 50% of 15 Answer (3)	DH L3
1.3.2	$\checkmark A$ Not True, because 50% of Asian countries have a life expectancy below 74 years whereas all European countries (100%) surveyed have life expectancy above 74 years. $\checkmark \checkmark J$ OR Not true. $\checkmark A$ The median of Europe is higher than median of Asia and Africa. $\checkmark \checkmark J$	1A Not True 2J Justification (3)	Not True Justification (3)	DH L4
<b>[30]</b>				

**QUESTION 2 [32 MARKS]**

2.1.1	$\checkmark MA$ $\% \text{ decrease} = \frac{R5 - R1,80}{R5} \times 100\%$ $= 64\% \checkmark A$	IMA 1A AO (2)	Concept of % decrease Answer AO (2)	F L3
2.1.2	To attract more clients $\checkmark O$ OR To encourage people to bank with standard Bank $\checkmark O$ OR The way of rewarding its clients $\checkmark O$	2O Opinion (2)	Opinion (2)	F L4
2.1.3	2016 Charges = R6,70 + R4 + 1,2% of R1000 $\checkmark SF$ $= R10,70 + R12$ $= R22,70 \checkmark A$ 2017 Charges = R6,70 + R1,80 per R100 $= R6,70 + R1,80 \times \frac{R1000}{R100} \checkmark M$ $= R6,70 + R18$ $= R24,70 \checkmark A$ It is not true, it is expensive to withdraw from other ATM $\checkmark CA$	ISF 1A = IM 1A ICA Answer (5)	Substituting R1 000 in correct formula Answer Diving R1000 by R100 Answer Not True (5)	F L4
2.2.1	$\checkmark MA$ Cost = 113,89 x 349,45 + R4,88 x 31 $\checkmark MA$ $= 39 798,86 + R151,28$ $= R397,9886 + R151,28$ $= R549,27 \checkmark CA$	IMA IMA ICA Answer (3)	Multiplying 113,89 x 349,45 Multiplying R4,88 by 31 Answer (3)	F L3

<p>2.2.2</p> <p><math>\sqrt{M}</math>  <math>VAT = \frac{14}{114} \times R549,27</math>  <math>= R67,45 \checkmark CA</math></p> <p><b>OR</b></p> <p>Original Price = <math>\frac{100}{114} \times R549,27</math>  <math>= R481,82</math>  <math>\checkmark M</math></p> <p>VAT = <math>R549,27 - R481,82</math>  <math>= R67,45 \checkmark CA</math></p>	<p>IM Using <math>\frac{14}{114}</math> ICA Answer</p> <p><b>OR</b></p> <p>IM Subtracting R481,82 from R549,27 ICA Answer</p>	<p>F L2</p>
<p>2.2.3</p> <p>Unit Used = <math>168\,292 - 167\,571</math>  <math>= 721 \checkmark A</math></p> <p><math>\checkmark MA</math></p> <p>Cost = <math>(600 \times 113,89) + (121 \times 179,81) + (R4,88 \times 31)</math>  <math>= 68\,334 + 21\,757,01 + R151,28</math>  <math>= R683,34 + R217,57 + R151,28 \checkmark S</math>  <math>= R1\,052,19</math></p> <p>Therefore, the charge is correct <math>\checkmark CA</math></p> <p><b>OR</b></p> <p>Unit Used = <math>168\,292 - 167\,571</math>  <math>= 721 \checkmark A</math></p> <p><math>\checkmark MA</math></p> <p>Cost = <math>600 \times R1,1389 + 121 \times R1,7981 + R4,88 \times 31</math>  <math>= R683,34 + R217,57 + R151,28 \checkmark S</math>  <math>= R1\,052,19</math></p> <p>Therefore, the charge is correct <math>\checkmark CA</math></p>	<p>1A KWh consumed IMA Multiplying 600 by 113,89 1MA Multiplying 121 by 179,81 IS Adding all values ICA Correct</p> <p>1A KWh consumed IMA Multiplying 600 x R1,1389 1MA Multiplying 121 by R1,7981 IS Adding all values ICA Correct</p>	<p>F L4</p>
<p>2.2.4</p> <p>To encourage people to save energy <math>\checkmark \checkmark O</math></p> <p><b>OR</b></p> <p>To discourage people from using more energy. <math>\checkmark \checkmark O</math></p> <p><math>\checkmark A</math></p>	<p>2O Opinion</p>	<p>F L4</p>
<p>2.3.1</p> <p>circumference = <math>\frac{3}{5} \times (3,142 \times 60mm) \checkmark SF</math>  <math>= \frac{3}{5} (188,52mm)</math>  <math>= 113,12mm \checkmark CA</math></p> <p><b>OR</b></p> <p><math>\checkmark A</math></p>	<p>1A using <math>\frac{3}{5}</math> ISF Substituting by 60mm</p> <p>1CA Answer</p> <p><b>OR</b></p>	<p>M L3</p>

<p>circumference = <math>\frac{3}{5} \times (3,142 \times 2 \times 30mm) \checkmark SF</math>  <math>= \frac{3}{5} (188,52mm)</math>  <math>= 113,12mm \checkmark CA</math></p> <p><b>OR</b></p> <p>circumference = <math>\frac{3}{5}</math> of <math>60 \text{ mm} \times 3,142</math>  <math>= 113,12 \text{ mm}</math></p>	<p>1A using <math>\frac{3}{5}</math> ISF Substituting by 2 x 30mm 1A Answer</p> <p><b>OR</b></p> <p>1A using <math>\frac{3}{5}</math> IM multiplying by 3,142 ICA Answer</p>	<p>AO (3)</p>	<p>M L3</p>
<p>2.3.2</p> <p>Volume of the cylinder = <math>\pi \times r^2 \times 0,55</math> of <math>h</math>  <math>= 3,142 \times (3,5cm)^2 \times 0,55 \times 9,2cm</math>  <math>\checkmark S</math>  <math>= 38,4895 \text{ cm}^2 \times 5,06cm</math>  <math>= 194,756 \text{ cm}^3</math>  <math>= 194,76cm^3 \checkmark A</math></p>	<p>IMA Multiplying 9,2 by 0,55 IS Simplification for 38,4895 1A Answer</p>	<p>AO (3)</p>	<p>M L3</p>

<p>2.3.3 1 litre = 1000cm<sup>3</sup> litres = 194,76cm<sup>3</sup> = <math>\frac{194,76}{1000} \sqrt{C}</math> = 0,1947.. litres/C ∴ 1 child = 0,1947.. litre 1 500 children = litres = 0,1947... x 1500 <math>\sqrt{M}</math> = 292,135.. litres Number of 5-litre ice creams = <math>\frac{292,135 \dots \text{litres}}{5 \text{ litres}} \sqrt{M}</math> = 58,42 = 59 <math>\sqrt{R}</math> OR = <math>\frac{19476 \times 1500}{1000 \sqrt{C}} \sqrt{M}</math> = <math>\frac{\sqrt{CA} \cdot 292,135}{5} \sqrt{M}</math> = 58,42 = 59 <math>\sqrt{R}</math></p>	<p>IC Converting volume to litres ICA number of litres IM Multiplying correct values IM Dividing by 5 litres IR Rounding IM multiplying 194,76 by number of children IC converting to litres ICA number of litres IM dividing by 5 litres IR rounding Max. of 4 marks for not rounding up</p>	<p>M L3</p>
<p>[32]</p>		

**QUESTION 3 [21 MARKS]**

<p>3.1.1 Area of the base = 2,5m x 2,1m <math>\sqrt{MA}</math> = 5,25m<sup>2</sup> <math>\sqrt{A}</math></p>	<p>IMA Multiplying correct values LA Area (2)</p>	<p>M L2</p>
<p>3.1.2 <math>s^2 = h^2 + \text{Base}^2</math> (1,74m)<sup>2</sup> = h<sup>2</sup> + (0,35)<sup>2</sup> <math>\sqrt{SF}</math> h<sup>2</sup> = 3,0276m<sup>2</sup> - 0,1225 m<sup>2</sup> h<sup>2</sup> = 2,9051m<sup>2</sup> <math>\sqrt{h^2} = \sqrt{2,9051m^2} \sqrt{M}</math> h = 1,7m <math>\sqrt{CA}</math></p>	<p>ISF correct substitution IM Finding the square root on both sides ICA Answer (3)</p>	<p>M L3</p>
<p>3.1.3 Volume of Tank = V. of Rectangular part + 2 x V. of triangular parts = 9,45cm<sup>3</sup> + 2[ <math>\frac{1}{2}</math> base x perpendicular height x height of the triangular prism ] = 9,45cm<sup>3</sup> + 2[(<math>\frac{1}{2}</math> x 0,35m x 1,7m x 2,1m)] <math>\sqrt{SF}</math> = 9,45m<sup>3</sup> + 0,312375 m<sup>3</sup> = 9,76 m<sup>3</sup> <math>\sqrt{S}</math> = 10 m<sup>3</sup> <math>\sqrt{CA}</math> 1 000 litres = 1m<sup>3</sup> litres = 10m<sup>3</sup> <math>\sqrt{C}</math> = 10 000 litres Yes, the capacity of the tank is double the capacity of a cylindrical 5 000-litre tank <math>\sqrt{J}</math></p>	<p>ISF Substituting correct values IS Simplification ICA Answer IC Converting m<sup>3</sup> to litres IJ Justification (5)</p>	<p>M L4</p>

3.1.1.4	<p>1 second = 4,5 litres 60 seconds = litres = 270 litres ✓C</p> <p>∴ 10 000 litres = minutes 270 litres = 1 minute Minute = <math>\frac{10000}{270}</math> ✓M = 37,04 minutes ✓CA</p> <p><b>OR</b></p> <p>10000 ✓M 4,5 × 60 ✓M = 37,04 minutes ✓CA</p>	<p>IC Converting time to litres</p> <p>IM Dividing by 270 litres ICA Answer</p> <p><b>OR</b></p> <p>IM dividing by 4,5 IM multiplying 4,5 by 60 ICA answer</p> <p>IMA Cost of 30 tanks</p> <p>IMA Adding original cost and profit IM Multiplying original cost by 3</p> <p>2J Justification (5)</p>	M L2
3.2.1	<p>Original Costs(30 tanks) = R6 900 x 30 ✓MA = R207 000</p> <p>Profit = Income - Cost R450 000 = Income - R207 000 Income = R450 000 + R207 000 ✓MA = R657 000</p> <p>Original cost tripled = R207 000 x 3 ✓M = R621 000</p> <p>The cost of one tank = <math>\frac{R657\ 000}{30}</math> = R21 900</p> <p>Therefore, the cost of one tank is more than three times the original price. ✓✓J</p>	<p>IMA Cost of 30 tanks</p> <p>IMA Adding original cost and profit IM Multiplying original cost by 3</p> <p>2J Justification (5)</p>	F L4
3.2.2	<p>Total Amount = R250 000 + <math>(\frac{11,5\%}{2} \times R250\ 000)</math> ✓MA = R250 000 + R14 375 = R264 375 ✓CA</p>	<p>IMA dividing 11,5% by 2 IMA Percentage increase ICA Answer AO (3)</p>	F L3
			211

**QUESTION 4 [17 MARKS]**

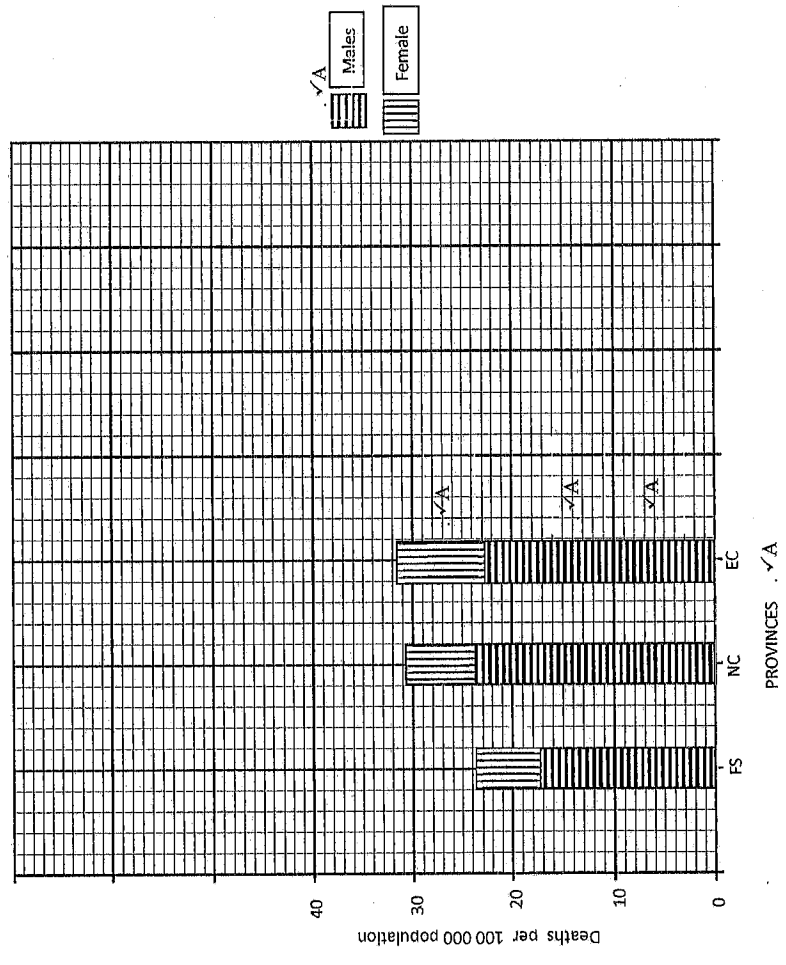
4.1.1	South East ✓✓A	2A	Direction	MP L2
4.1.2	<p>29 mm = 1 000km ✓A 42 mm = km</p> <p>Distance = <math>\frac{42\ 000}{29}</math> km ✓M = 1488,28 km = 1 488 km ✓CA</p>	1A IM ICA Answer ACCEPT : 1464 km or 1500km NPR	<p>Concept of the bar scale</p> <p>Dividing by 29</p>	MP L2
4.1.3	<p>Duration = Departing Time (Victoria Falls) - Arrival Time (Victoria Falls) - Travelling Time</p> <p>✓MA = (19h00 - 9h00) - 40 minutes = 10 hours - 40 minutes ✓M = 9 hours 20minutes ✓A</p>	IMA Subtracting 9h00 from 19h00 IM Subtracting 40 minutes IA Answer	<p>Subtracting 9h00 from 19h00</p> <p>Subtracting 40 minutes Answer</p>	MP L2
4.1.4	<p><b>ANY 2 OF THE FOLLOWING</b></p> <p>It is cheaper to travel by train than by a car ✓✓O</p> <p><b>OR</b></p> <p>They do not know the place well ✓✓O</p> <p><b>OR</b></p> <p>They want save their petrol ✓✓O</p> <p><b>OR</b></p> <p>They were tired after driving from South Africa Zimbabwe ✓✓O</p>	20 x 2	Opinion	MP L4
4.2.1	<p>To enjoy sight seeing ✓✓O</p> <p><b>OR</b></p> <p>any other valid point.</p> <p>The graph is indicating depreciation percentage overtime. ✓✓O</p> <p><b>OR</b></p> <p>If the value of depreciation percentage increases, the value of the car decreases. ✓✓O</p> <p><b>OR</b></p> <p>The value of the car decreases as the time goes on. ✓✓O</p>	20	<p>Concept of depreciation</p>	F L4
				(2)

4.2.2	$\begin{aligned} \checkmark MA \\ \text{Book value} &= R395\,999 - (4\% \text{ of } R395\,999) \\ &= R395\,999 - R15\,839,96 \\ &= R380\,159,04 \\ &= R380\,159 \checkmark A \end{aligned}$ <p style="text-align: center;"><b>OR</b></p> $\begin{aligned} \checkmark M \\ \text{Book value} &= 96\% \times R395\,999 \\ &= R380\,159,04 \\ &= R380\,159 \checkmark A \end{aligned}$	<p>IMA Decreasing value by 4%</p> <p>IM Subtracting depreciation value from original amount</p> <p>1A Answer</p> <p>IM Using 96%</p> <p>IMA Multiplying R395 999 by 96%</p> <p>1A Answer AO (3)</p>	F L3
		[17]	

TOTAL: 100

ANSWER SHEET

QUESTION 1.1.5



- 1A stacked graph
- 1A key / legend
- 1A any 2 correct bars for males
- 1A any 2 correct bars for females
- 1A Labelling correctly both Axis