Basic Education

KwaZulu-Natal Department of Basic Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY P1

PREPARATORY EXAMINATION

SEPTEMBER 2016

NATIONAL SENIOR CERTIFICATE

GRADE 12

MARKS: 150

TIME: 3 hours

N.B. This question paper consists of 14 pages, an ANSWER SHEET and an Addendum with 2 Annexures.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **FIVE** questions. Answer **ALL** the questions.

2.

2.1 Answer QUESTION 1.7.5 (a) on the attached ANSWER SHEET. Write your NAME, SURNAME and CLASS in the spaces provided and hand in with your ANSWER BOOK.

2.2 Use the addendum with Annexures for the following questions:

Annexure A for Question 3
Annexures B for question 5.4

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 context unless stated otherwise.

8. Indicate units of measurement where applicable.

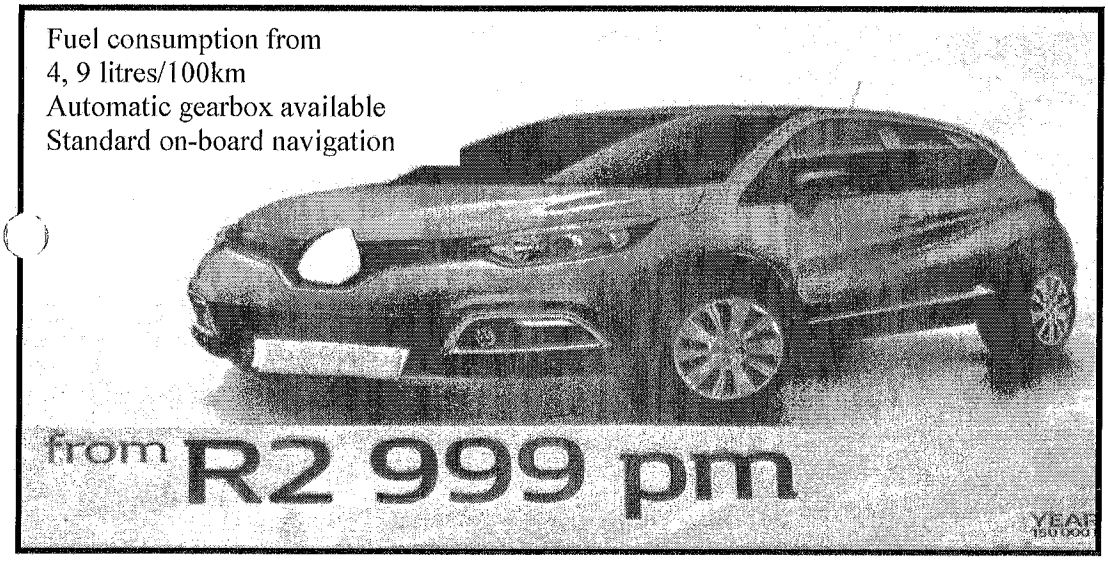
9. Maps and diagrams are NOT necessary drawn to scale, unless stated otherwise.

10. Write neatly and legibly.

QUESTION 1

Ricardo sees an advertisement of a car shown on the photo below. He is interested in buying it but is not sure which model to buy. He does some calculations before taking a decision. Study the advertisement below and answer the questions that follow.

Photo of an advertisement of a car.



MODEL	INSTALMENT	RATE	DEPOSIT	PERIOD	BALLOON	RETAIL	TOTAL COST
Express 1	R2 999,00	8.91% linked	10%	72	35%	R235 900	R299 598
Express 2	R3 299,00	10.49% fixed	10%	72	35%	R235 900	R314 721
Express 3	R3 499,00	9.25% linked	0%	72	35%	R235 900	R333 536
Express 4	R3 701,00	10.77% fixed	0%	72	35%	R235 900	R349 440

Source: www.nnadvertiseronline.co.za

1.1 Calculate the deposit if Ricardo decides to buy Express 1 model. (2)

1.2 Balloon payment is the final instalment at the end of the term. Determine the balloon payment for Express 1 model. (2)

1.3 Determine the total amount that Ricardo will pay if he chooses to buy the advertised car.

Note: there will be 71 monthly instalments, balloon payment and the deposit. (2)

1.4 Which model is advertised in the photo? (2)

1.5 Give one advantage and one disadvantage of choosing a fixed interest rate when buying in instalments. (4)

1.6 (a) If Ricardo buys Express 1 model, calculate the number of litres of petrol his car will consume if he travels 805 km. (3)

(b) Determine the total amount Ricardo will pay for petrol for the trip mentioned above if 1litre of petrol costs R12, 19. (2)

1.7

- A lady makes standard length curtains which she sells at R150,00 per curtain.
- If she makes 40 or less curtains per month, her production costs are R100, 00 per curtain.
- If she makes more than 40 curtains per month, her production costs are reduced to R85, 00 per curtain.
- She pays R8 100, 00 per annum for the rental of the stall.
- Monthly transport costs are R325, 00.

1.7.1 Calculate her fixed operating cost per month. Show all calculations. (3)

1.7.2 Calculate the percentage reduction per curtain if more than 40 curtains are made (3)

1.7.3 (a) Calculate the percentage profit per curtain if less than 40 curtains are produced.

Use the following formula:

$$\%\ \textbf{profit per curtain} < 40 \quad \frac{\textbf{Selling Price} - \textbf{Cost Price}}{\textbf{Cost Price}} \times 100\% \qquad (2)$$

(b) Calculate the percentage profit per curtain if more than 40 curtains are produced.

Use the following formula:

$$\%\ \textbf{profit per curtain} > 40 = \frac{\textbf{Selling Price} - \textbf{Cost Price}}{\textbf{Cost Price}} \times 100\% \qquad (2)$$

1.7.4 The table below shows the production costs for different quantities of curtains which can be produced in a month.

Table 1: Production costs for different quantities of curtains

Number of curtains produced (n)	0	30	40	51	56	60	70	C
Total cost (R) per month	1 000	4 000	A	5 335	5 760	B	6 950	7 290

Determine the missing values A, B and C.

Use the following formula:

Total cost = fixed monthly cost + (number of curtains × cost per curtain) (6)

1.7.5 The income is represented on the graph on the ANSWER SHEET.

(a) Refer to the information in the table and draw the graph showing production cost on the same set of axes. Label the graph accordingly. (6)

(b) Approximately how many curtains must she sell to break even? (2)

(c) If she makes 80 curtains and sells 60, calculate profit. (5)

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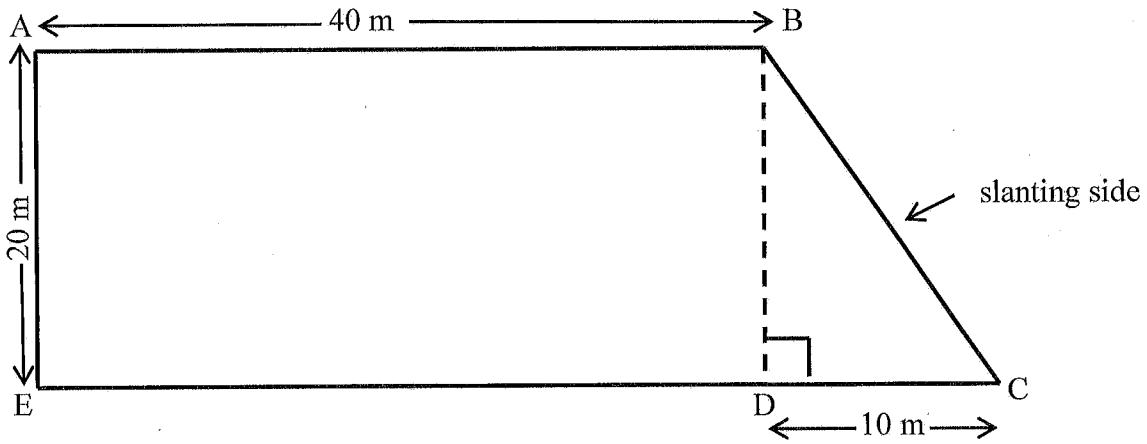
QUESTION 2

Romeo and Lucia have recently got married. Soon after the wedding ceremony, they bought a site on which to build their house. The site is on the corner of the street and has irregular shape consisting of a rectangle and a triangle. The dimensions of the site are given in the sketch below.

Sketch of Romeo and Lucia's site



2.1 Calculate the length of the slanting side BC of the triangular shape.

Use the following formula:

$$\mathbf{BC^2 = BD^2 + DC^2}$$ (4)

2.2 Hence calculate the perimeter of the whole site.

Use the following formula:

$$\mathbf{Perimeter = side_1 + side_2 + side_3 + side_4}$$ (2)

2.3 Calculate the area of the whole site.

Use the following formula:

Area of a rectangle = length × width

$$\mathbf{Area\ of\ a\ triangle} = \frac{1}{2} \times \mathbf{base} \times \mathbf{perpendicular\ height}$$ (6)

2.4 Romeo's weight is 108kg and his height is 1,75m. Determine his Body Mass Index (BMI). (2)

Use the following formula:

$$\textbf{BMI} = \frac{\textbf{weight in kg}}{\textbf{(height in metres)}^2}$$

2.5 Refer to the table below and classify Romeo's weight category. (2)

Table 2: BMI values and classification

BMI (Kg/m²)	Classification
<18,5	Underweight
18,5 – 24,99	Normal range
25 – 29,99	Overweight
≥ 30	Obese

2.6 Romeo and Lucia bought drinking glasses in boxes for their wedding. The diagrams of the box and the glass are shown below. Study them and answer the questions that follow.

Photo of a box with box divider

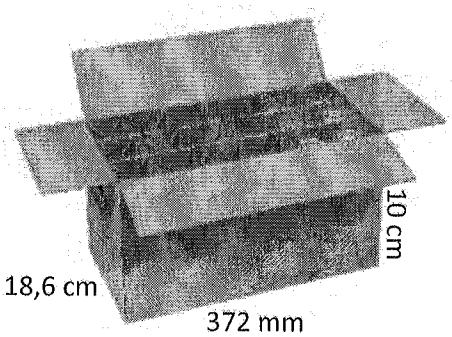
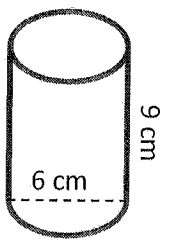


Diagram of a glass



2.6.1 Calculate the total surface area of the box

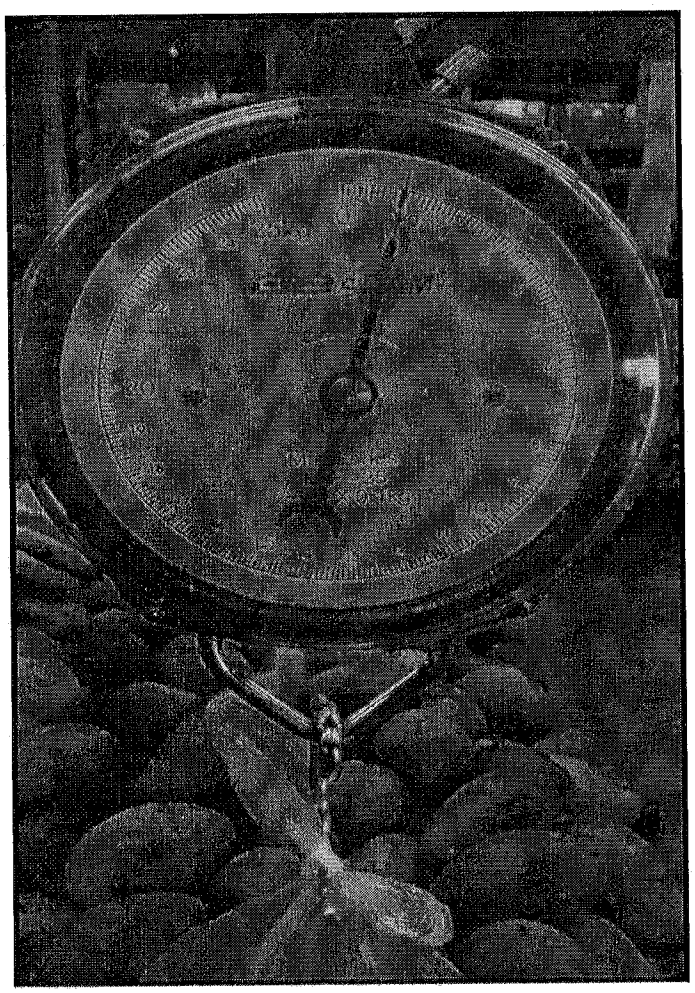
Use the following formula:

Surface area of a rectangular prism = 2 (length × height) + 2 (width × height) + (length × width) (4)

2.6.2 The glasses when packed, are divided by a cardboard divider which has a thickness of 0, 2 cm. Determine how many glasses (single layer) can fit into the box. Show all calculations. (6)

2.6.3 If in the above box there are 6 red glasses, 6 blue glasses and the rest are yellow. Determine the probability that if a glass is chosen randomly, it is a yellow glass. (2)

2.7 The couple weighs the mangoes (fruit) at the fruit and vegetable shop as shown in the photo below. Study the photo and answer the following questions.



(a) Calculate how many mangoes are on the scale as shown above if ONE mango weighs 125g. (3)

(b) Determine the maximum weight (in grams) that the above scale can hold. (2)
[33]

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MATHEMATICAL LITERACY P1

ADDENDUM

PREPARATORY EXAMINATION

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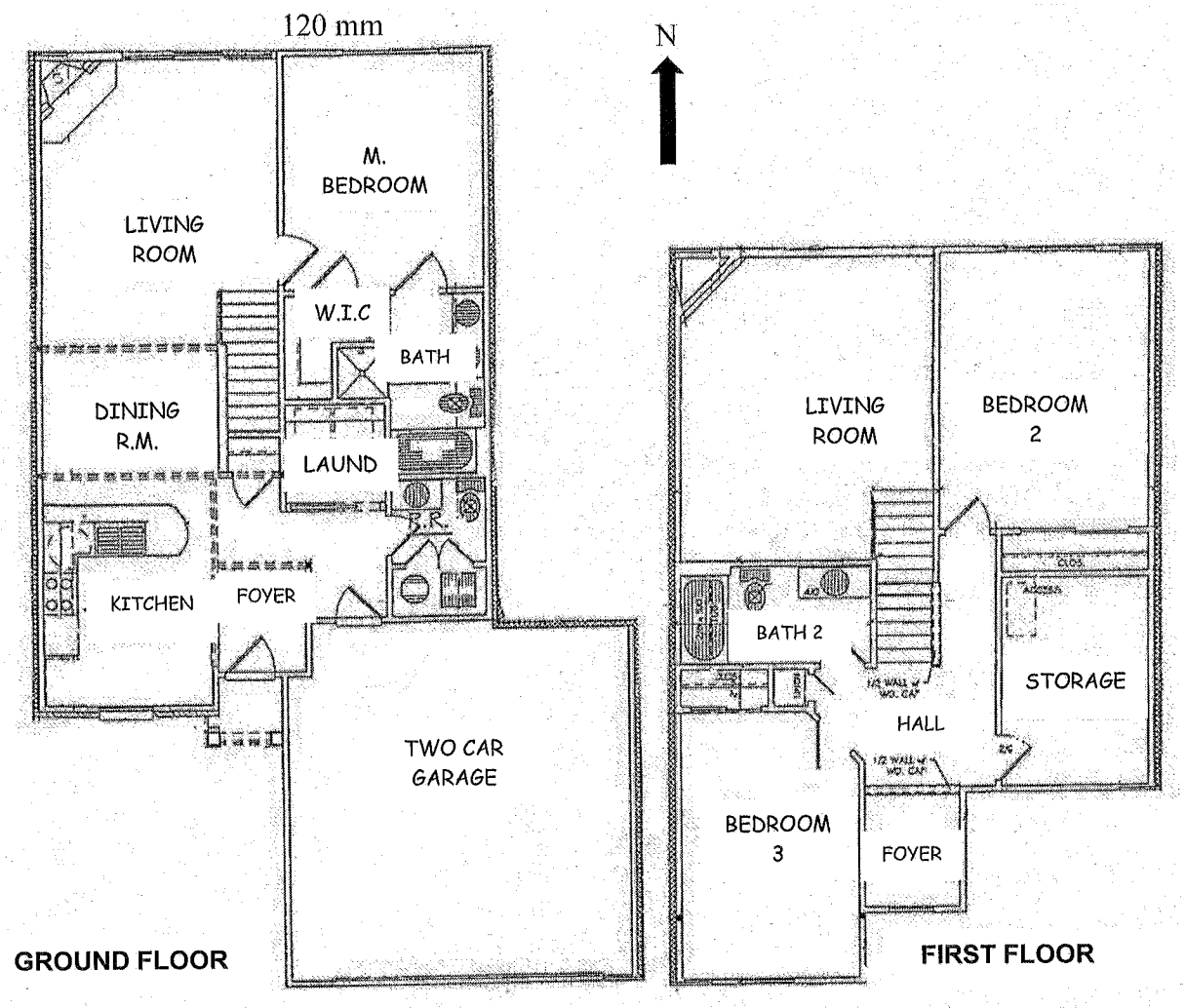
N.B. This addendum consists of 3 pages with 2 Annexures.

ANNEXURE A

FLOOR PLAN OF ROMEO AND LUCIA'S HOUSE

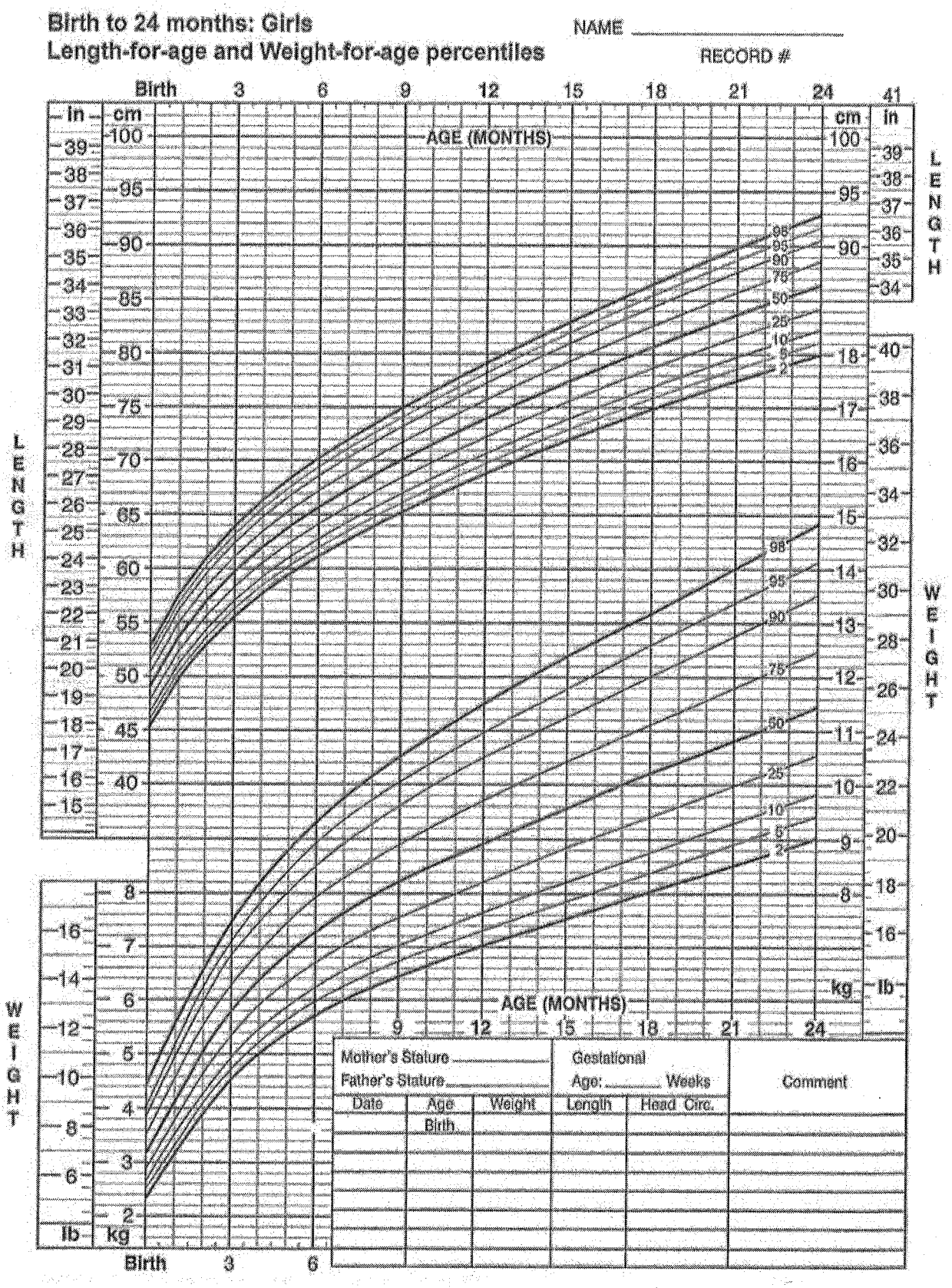
KEY: M. bedroom = main bedroom
Laund. = Laundry
Bath. = Bathroom
Dining R.M = Dining room
W.I.C = Walk–in–closet



Source: www.floorplans.com

ANNEXURE B

Question 5.4



QUESTION 3

Romeo and Lucia want to build a double-storey house. They consult Mr van Rooyen an architect and explain their plan. The architect draws the floor plan as on Annexure A according to the couples' specifications.

Use ANNEXURE A to answer the following questions.

3.1 The length of the northern wall on the plan is 120mm, which represents 36m in real life. Determine the scale that was used. (3)

3.2 Use the scale calculated in 3.1 to calculate the length of the garage (in mm) on the plan, if it measures 6 m in reality. (3)

3.3 How many bedrooms does the house have? (2)

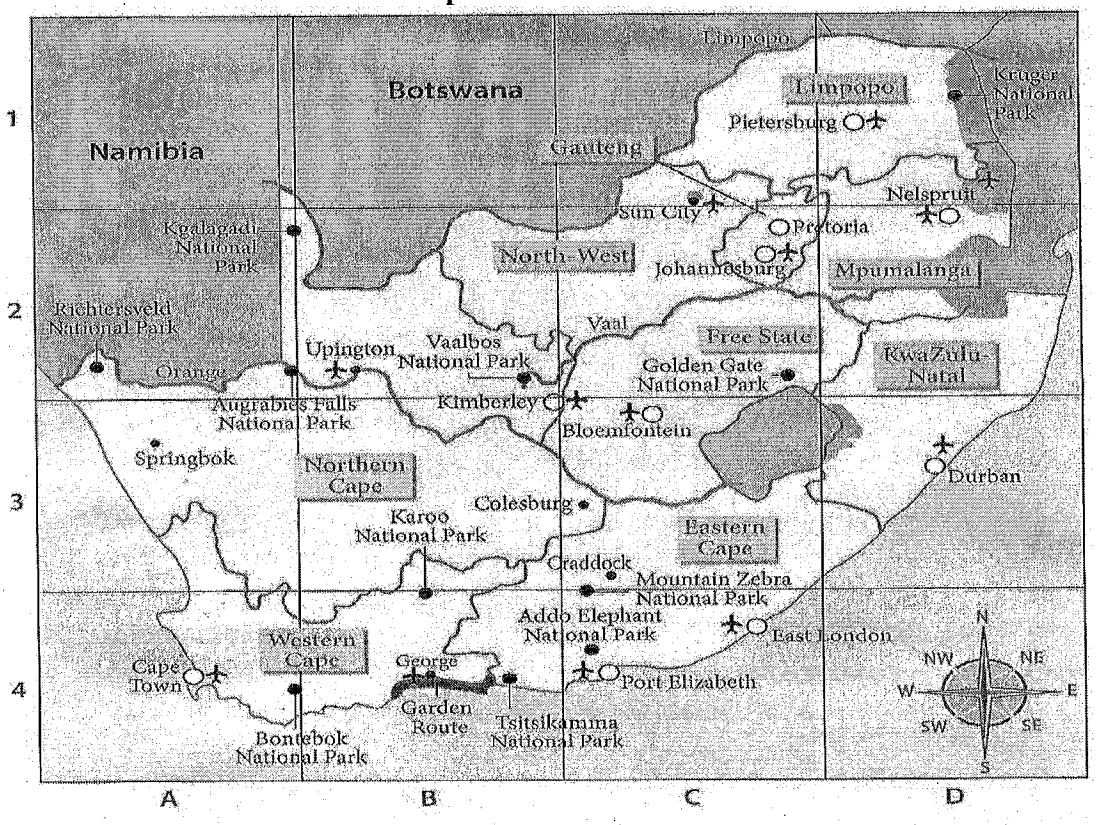
3.4 Determine the total number of doors on the ground floor. (2)

3.5 Give the general direction of the living room on the first floor from the garage. (2)

3.6 What is the probability (as a percentage) that Romeo and Lucia's bedroom is on the ground floor? (2)

3.7 Romeo and Lucia use the map of South Africa to plan for the holidays. Study the map and answer the questions that follow.

Map of South Africa



3.7.1 Write down the grid reference of Durban. (2)

3.7.2 In which province is Nelspruit located? (2)

3.7.3 Which national park lies on the north of Durban? (2)

3.7.4 The distance from Durban to Johannesburg is 556 km. Calculate the time in hours and minutes it would take to travel between the two places if the average speed is 105 km/h.

Use the following formula:

$$\textbf{Time} = \frac{\textbf{Distance}}{\textbf{Average Speed}}$$

(4)

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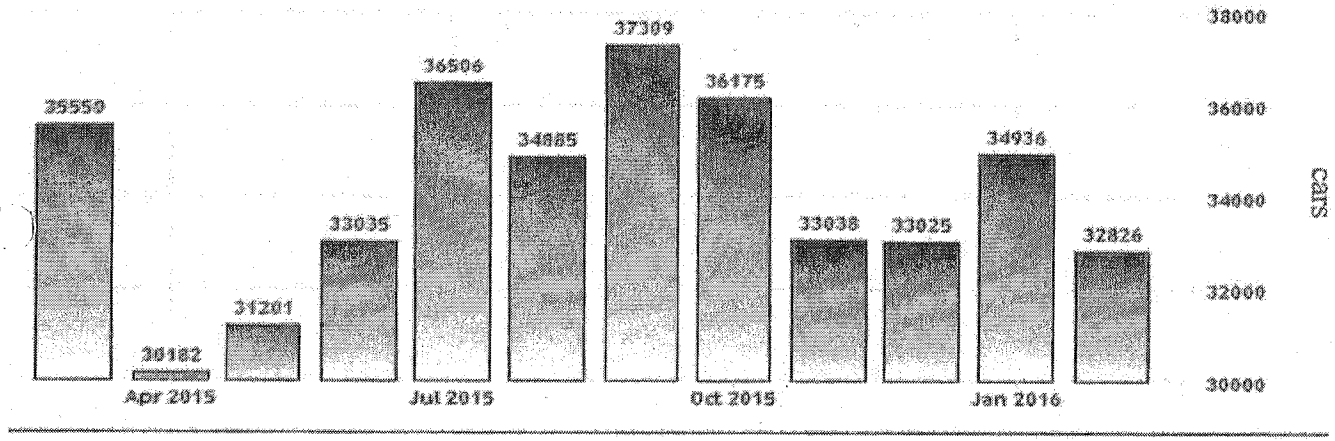
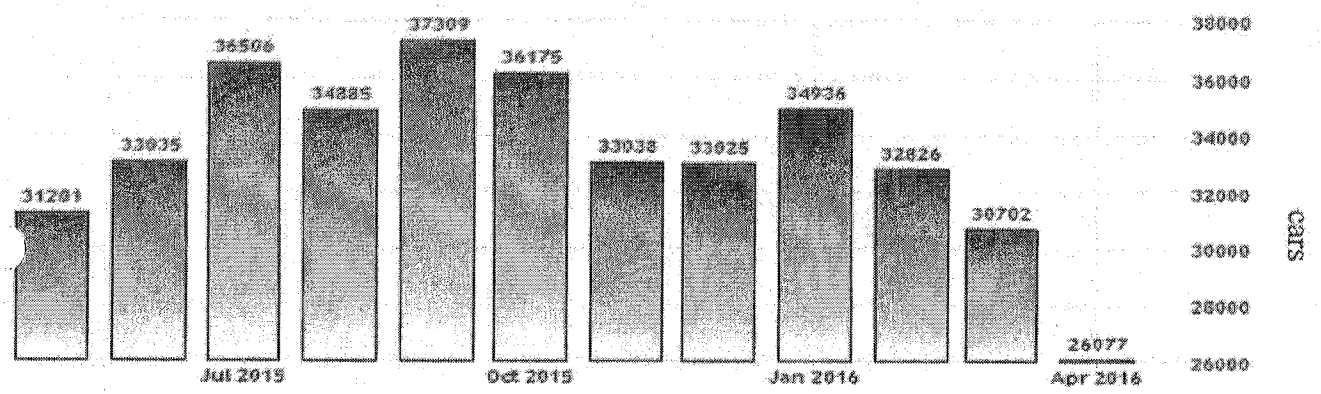
QUESTION 4

The data represented in the bar graphs below show new car sales in South Africa from March 2015 to February 2016 and from May 2015 to April 2016. Study the graphs and answer the following questions.

Graph showing new car sales in South Africa from March 2015 to February 2016



Graph showing new car sales in South Africa from May 2015 to April 2016



Source: www.tradingeconomics.com

4.1 Identify the month that had the highest car sales from March 2015 to February 2016. (2)

4.2 Determine the total number of new car sales in South Africa between May 2015 and April 2016. (2)

4.3 Determine the percentage decrease of new car sales from March 2016 to April 2016. Round the answer to the nearest percentage

Use the following formula:

$$\textbf{Percentage decrease} = \frac{\textbf{New} - \textbf{Old}}{\textbf{Old}} \times \textbf{100\%}$$ (3)

4.4 Determine the mean number of new car sales between March 2015 and February 2016. (3)

4.5 Determine the month that had the least number of cars registered between March 2015 to February 2016. (2)

4.6 Name two months that had a difference of three cars registered between March 2015 to February 2016. (2)

4.7 The Department of Social Development provide social grants to the people of South Africa through SASSA. During the Budget Speech, the social grants were increased as shown in the table below.

Table 3: Social grants increase from 2014/15 to 2016/17

	2014/2015	2015/2016	2016/17
State old age grant	R1 350	R1 415	R1505
State old age grant, over 75	R1 350	R1 435	R1 525
War veterans grant	R1 350	R1 435	R1 525
Disability grant	R1 350	R1 415	R1 505
Foster care grant	R 830	R 860	R 860
Care dependency grant	R1 350	R1 415	R1 505
Child support grant	R 310	R 330	R 350

Source: www.treasury.gov.za

4.7.1 Determine the social grant(s) that had the most increase between 2015/16 and 2016/17 financial years. (2)

4.7.2 Which financial year has the greater percentage increase for child support grant? Show all calculations.

Use the following formula:

$$\textbf{Percentage increase} = \frac{\textbf{New} - \textbf{Old}}{\textbf{Old}} \times \textbf{100\%}$$ (5)

[21]

QUESTION 5

A family lives in Newcastle. Below are the prepaid electricity tariffs schedules for 2015/2016. Study the tariffs below and answer the questions that follow. Value Added Tax (VAT) is calculated on the final amount.

Table 3: Domestic/Residential tariffs for prepaid electricity 2015/2016

Kwh consumed	Charge per kWh in cents(excluding VAT)
Block 1: 0 to 50 kwh	88,39 cents
Block 2: More than 50 to 350 kwh	106,58 cents
Block 3: More than 350 to 600 kwh	113,91 cents
Block 4: More than 600 kwh	119,97 cents

Source: www.newcastlemunicipality.gov.za

5.1 Determine the number of kilowatt hours (kWh) in Blocks 1, 2 and 3. (3)

5.2 Write the ratio of the number of kWh in block 1 to the number of kWh in block 2 in simplest form. (2)

5.3 They buy electricity for R500, 00 including VAT.

5.3.1 Determine the amount of VAT. (2)

5.3.2 Determine the number of kilowatt hours (kWh) they will get. (5)

5.4 Hlengiwe and Thulani have two girls, a two year old and a 9 months old. Refer to Annexure B in the addendum to answer the following questions.

5.4.1 Consider the two year old girl whose weight was at the 50th percentile curve at birth.

(a) What measure of central tendency is represented by the 50^{th} percentile curve? (2)

(b) Write down the girl's weight at birth. (2)

(c) What does it mean if the child's weight is on the 50^{th} percentile curve? (2)

(d) Assume that there are 20 034 two year old girls in South Africa. How many girls will have a weight above the weight of the girl mentioned in 5.4.1? (2)

5.4.2 Determine the percentile curve on which a 9 month old girl who is 72cm tall will fall. (2)

5.5 A retired educator owns a crèche. There are 20 toddlers, 25 three year olds and 15 four year olds.

(a) What is the probability that a baby chosen randomly is a toddler? Leave your answer in decimal fraction form. (2)

(b) What is the probability that a baby chosen randomly is five years old? Leave your answer in common fraction form. (2)

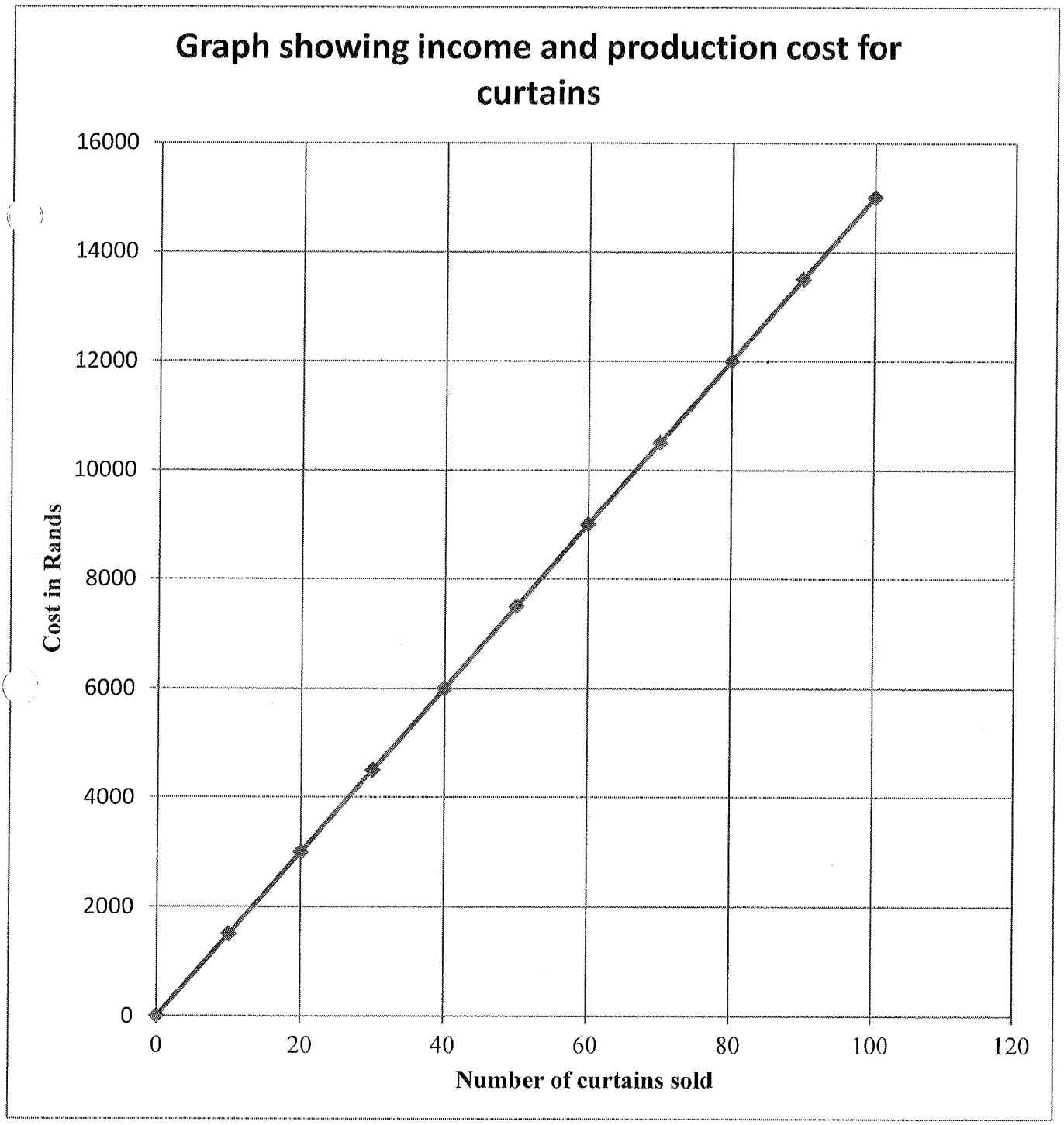
[26]

TOTAL MARKS: 150

ANSWER SHEET

NAME: _____ **GRADE:** _____

For question 1.7.5 (a)



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Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY P1

MEMORANDUM

PREPARATORY EXAMINATION

SEPTEMBER 2016

NATIONAL SENIOR CERTIFICATE

GRADE 12

MARKS : 150

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	Justification
R	Rounding off
F	deriving a formula
E	Explanation

N.B. This memorandum consists of 15 pages including the ANSWER SHEET.

QUESTION 1 [46 MARKS]			
Ques No	**Solution**	**Explanation**	**T&L**
1.1	Deposit Express 1= 10% x R235 900,00 ✓M = R23 590,00✓A	1M multiplying by 10% or 0,1 1A answer **Answer only full marks** (2)	F L2
1.2	Balloon payment Express 1=35% x R235 900,00 ✓M = R82 565,00✓A	1M multiplying by 35% or 0,35 1A answer **Answer only full marks** (2)	F L2
1.3	✓M Total amount = (2 999,00 x 71) + R23 590,00 + R82 565,00 = R319 084,00 ✓CA	1M multiplication 1CA answer (2)	F L1
1.4	Express 1✓✓AA	2A answer (2)	F L1
1.5	Advantage: When interest rate increases✓E monthly instalment is not affected.✓E Disadvantage: When interest rate decreases✓E the monthly instalment does not decrease✓E OR Any other relevant explanation	2E (2) 2E (2)	F L2
1.6	(a) 4.9 litres : 100km litres : 805km litres = $\frac{805\text{ km} \times 4{,}9\text{ litres}}{100\text{ km}}$ ✓M ✓M = 39,45 litres ✓A OR litres = 4.9 x 8.05✓✓M = 39.45 litres✓A	1M multiplying 805km by 4,9litres 1M dividing by 100km 1A answer OR 2M multiplying 4.9 litres by 8.05 1A answer (3)	M L2
	b) 1 litre : R12,19 39,45 litre : R R = 39,45 x R12,19✓M = R480,90✓CA	1M multiplying by R12,19 1CA answer if used no. of litres in 1.6 (a) (2)	F L2
	✓M		F

1.7.1	Fixed costs per month = (R8 100,00 ÷ 12) + R325,00 ✓S = R675,00 + R325,00 = R1 000,00✓A	1M dividing by 12 1S simplification 1A answer (3)	L2
1.7.2	Percentage reduction per curtain = R100 – R85 ✓M $= \frac{R15,00}{R100,00} \times 100\%$ ✓M = 15%✓A	1M subtracting 1M percentage concept 1A answer **Answer only full marks** (3)	F L1

1.7.3	(a) % profit per curtain < 40 $= \frac{\text{Selling Price} - \text{Cost Price}}{\text{Cost Price}} \times 100\%$ $= \frac{R150,00 - R100,00}{R100,00} \times 100\%$ ✓SF $= 50\%$✓A	1SF correct substitution into the formula 1A answer (2) **Answer only full marks**	F L2
	(b) % profit per curtain > 40 $= \frac{\text{Selling Price} - \text{Cost Price}}{\text{Cost Price}} \times 100\%$ $= \frac{R150,00 - R85,00}{R85,00} \times 100\%$ ✓SF $= 76,47\%$✓CA	1SF correct substitution into the formula 1CA answer **Answer only full marks** (2)	F L2
1.7.4	A = R1 000,00 + (40 x R100,00)✓M = R5 000,00✓A B = R1 000,00 + (60 x R85,00) = R6 100,00✓A **Total Cost (R)** = R1 000,00 + (R85,00 x C) R7 290,00 – R1 000,00 = R85 C✓M $\frac{R85,00C}{R85,00} = \frac{R6290,00}{R85,00}$ ✓M C = 74 curtains✓CA **Total Cost (R)** = R1 000,00 + (R85,00 x number curtains) R7 290,00 – R1 000,00 = R85 C✓M $\frac{R85,00C}{R85,00} = \frac{R6290,00}{R85,00}$ ✓M C = 74 curtains✓CA	1M multiplying by R100,00 1A answer 1A answer 1M subtracting R1 000, 00 from total cost. 1M diving by R85,00 1CA answer if divided by R100,00 **Answer only full marks** (6)	F L1 L2

1.7.5	(a) Refer to Annexure A	1A graph starting at R1 000,00 1A plotting (40: R5 000) 1A joining points 2A plotting any two correct points after 40 1CA labeling graph for production cost (6)	F L2
	(b) Approximately 20 curtains ✓✓RG	2RG reading from the graph (2)	L1
	(c) Cost of 80 curtains = R1 000,00 + (R85,00 x 80) ✓MA = R7 800,00 ✓S	1MA multiplying R85 by 80 1S simplification	L2
	Income for 60 curtains = R150,00 x 60 = R9 000,00✓A	1A answer	
	Profit = R9 000,00 – R7 800,00 ✓M = R1 200,00 ✓CA	1M subtracting cost 1CA answer (5)	

QUESTION 2 [33 MARKS]			
2.1	$BC^2 = BD^2 + DC^2$ $= (20m)^2 + (10m)^2$ ✓SF $= 500m^2$ ✓S $BC = \sqrt{500}\,m^2$✓S $= 22{,}36$ m ✓CA	1SF correct substitution 1S simplification 1S removing the square 1CA answer (4)	M L2
2.2	Perimeter $= S_1 + S_2 + S_3 + S_4$ $= 50$ m $+ 20$ m $+ 40$ m $+ 22{,}36$ m ✓SF $= 132{,}36$ m ✓CA	1SF correct substitution 1CA answer **Answer only full marks** (2)	M L1
2.3	Area of a rectangle $= \ell$ x w $= 40$ m x 20 m ✓SF $= 800\ m^2$ ✓A Area of a triangle $= \frac{1}{2}$ x b x h $= 0{,}5$ x 10 m x 20 m ✓SF $= 100\ m^2$ ✓A Total area $= 800\ m^2 + 100\ m^2$ $= 900\ m^2$ ✓CA ✓A	1SF correct substitution into the formula 1A answer 1SF correct substitution into the formula 1A answer 1CA answer 1A unit (6)	M L2
2.4	Romeo's BMI $= \frac{\text{weight in kg}}{(\text{height in metres})^2}$ $= \frac{108\,kg}{(1{,}75m)^2}$ ✓SF $= 35{,}27\ kg/m^2$ ✓A	1SF correct substitution into the formula 1A answer (2) **No Penalty for omitting units**	M L1
2.5	Romeo is obese ✓✓A	2A answer (2)	M L1

2.6.1	Surface area of a rectangular prism = 2 (length x height) + 2(width x height) + (length x width) = 2 (372mm ÷ 10 ✓C × 10 cm) + 2(18.6cm × 10cm) + (372mm ÷ 10cm × 18.6cm) ✓SF = 372 cm^2 + 372 cm^2 + 691.92cm^2 ✓S = 1 435.92 cm^2 ✓A	1C converting mm to cm 1SF correct substitution into the formula 1S simplification 1A answer (4) **ACCEPT:** 2 127,84 cm^2	M L2
2.6.2	Along the length 372 mm ÷10 = 37,2 cm 37,2 cm ÷ 6,2 cm✓M = 6 glasses ✓CA Along the width 18,6 cm ÷ 6,2 cm ✓M = 3 glasses ✓CA Number of glasses = 6 × 3 ✓M = 18 ✓CA	1M dividing by diameter+ thickness 6,2cm 1CA answer 1M dividing by diameter+ thickness 6,2cm 1CA answer 1M multiplying no. of glasses 1CA answer (6)	M L3
2.6.3	P (yellow) = $\frac{6}{18}$ ✓CA ✓CA or $\frac{1}{3}$ or 0.33 or 33%	2CA answer (2)	P L2
2.7	(a) 1kg = 1 000g Number of mangoes = $\frac{1000}{125}$ ✓C ✓M = 8 ✓A (b) 25 kg × 1 000 ✓M = 25 000 g ✓A	1C conversion 1M dividing 1A answer (3) 1M multiplying by 1 000 1A answer (2)	M L1 M L1

QUESTION 3 [24 MARKS]			
3.1	120 mm : 36 m 120 mm : 36 x 1 000 ✓C $\frac{120}{120} = \frac{36000}{120}$ ✓M 1: 300 ✓A OR 120 mm : 36 m ✓C 120 mm ÷ 1 000 ✓M : 36 $\frac{0.12}{0,12} = \frac{36}{0,12}$ 1 : 300 ✓A	1C converting m to mm 1M dividing by 1 000 1A answer 1C converting m to mm 1M dividing by 1 000 1A answer **Answer only full marks** (3)	M&P L2
3.2	1 : 300 mm : 6 m mm : 6 x 1 000 ✓C mm = $\frac{6000}{300}$ ✓M ∴ Length of the garage = 20 mm ✓CA	1C converting m to mm 1M dividing by scale in 3.1 1CA answer (3)	M&P L2
3.3	3 bedrooms ✓✓A	2A answer (2)	M&P L1
3.4	9 doors ✓✓A	2A answer (2)	M&P L1
3.5	North West✓✓A	2A answer (2)	M&P L1
3.6	100% ✓✓A	2A answer (2)	M&P L1

3.7.1	D3 / 3D ✓✓RM	2RM reading from the map (2)	M&P L1
3.7.2	Mpumalanga ✓✓RM	2RM reading from the map (2)	M&P L1
3.7.3	Kruger National Park ✓✓RM	2RM reading from the map (2)	M&P L1
3.7.4	$\text{Time} = \frac{\text{Distance}}{\text{AverageSpeed}}$ $= \frac{556\,\text{km}}{105\,\text{km/h}}$ ✓SF = 5,295 hours ✓A = 5 hours (0,295 x 60) ✓M = 5 hours 18 minutes ✓A	1SF correct substitution 1A answer 1M multiplying by 60 1A answer **ACCEPT**: 5 hours 17 minutes (4)	M&P L2

QUESTION 4 [21 MARKS]			
4.1	September 2015 ✓✓RG	2RG answer (2)	DH L1
4.2	Total no. of new cars registered = 31 201 + 33 035 + 36 506+ 34 885 + 37 309 + 36 175 + 33 038 +33 025 + 34 936 +32 826 + 30 702 +26 077✓M = 399 715 ✓A	1M adding all values 1A answer **Answer only full marks** (2)	DH L1
4.3	% decrease = $\frac{\text{New} - \text{Old}}{\text{Old}}$ x 100% = $\frac{26\,077 - 30\,702}{30\,702}$ x 100% ✓SF = -15,06% ✓CA ≈ -15% ✓R	1SF correct substitution into the formula 1CA answer 1R rounding **ACCEPT**: 15% **Answer only full marks** (3)	DH L2
4.4	Mean = $\frac{408668}{12}$ ✓✓M = 34 055,67 ✓CA	1M adding all values 1M dividing by 12 1CA answer **Answer only full marks** (3)	DH L2
4.5	April 2015 ✓✓A	2A answer (2)	DH L1
4.6	June 2015 ✓RG and November 2015 ✓RG	2RG reading from the graph (2)	DH L1

4.7.1	state old age grant state old age grant over 75 war veterans grant disability grant care dependency grant ✓✓RT	2RT for Any two types of grants (2)	DH L2
4.7.2	% increase = $\frac{\text{New} - \text{Old}}{\text{Old}}$ x 100% **2014/15 and 2015/16** = $\frac{\text{R}\,330{,}00 - \text{R}\,310{,}00}{\text{R}\,310{,}00}$ x 100% ✓SF = 6,5% ✓A **2015/16 and 2016/17** = $\frac{\text{R}\,350{,}00 - \text{R}\,330{,}00}{\text{R}\,330{,}00}$ x 100% ✓SF = 6,06% ✓A Greater increase was in 2014/15 to 2015/16 ✓C	1SF correct substitution into the formula 1A answer 1SF correct substitution into the formula 1A answer 1C conclusion (5)	DH L2

QUESTION 5 [26 MARKS]			
5.1	**Block 1** : 50 – 0 = 50kwh✓A **Block 2** : 350 – 50 = 300kwh✓A **Block 3** : 600 – 350 = 250kwh✓A	3A answer (3)	F L1
5.2	50: 300✓CA 1:6✓S	1CA answer 1S simplification **Answer only full marks** (2)	F L1
5.3.1	Amount of VAT = $\frac{R\,500,00}{1,14}$ ✓M =R438,60 = R500,00 – R438,60 =R61,40✓A **OR** = $\frac{100}{114}$ x R500,00 ✓M = R438,60 = R500,00 – R438,60 =R61,40✓A OR = $\frac{14}{114}$ x R500 = 61.40%	1M dividing by 1,14 1A amount of VAT 1M dividing by 114 1A amount of VAT **Answer only full marks** (2)	F L3

5.3.2	No. of kwh = R438,60 – (50kwh x $\frac{88,39}{100}$) ✓M =R394,41✓CA R394,41 – (300kwh x $\frac{106,58}{100}$) = R74,67 ✓CA R74,67 ÷ $\frac{113,91}{100}$ = 65,55kwh✓CA Total no. of kWh = 50 + 300 + 65,55 = 415,55 ✓CA	1M multiplying by 88,39 ÷100 1CA answer 1CA answer 1CA answer 1CA answer (5)	F L2

5.4.1	(a) Median ✓✓A (b) 3,2 kg ✓✓A (c) It means that 50% of the girls of the same age, have a weight that is lower than hers and the other 50% have a weight that is higher than hers ✓✓E **OR** Half of the girls of the same age have a weight that is lower than his and the other half has a weight that is higher than his. ✓✓E (d) No. of girls = 50% x 20 034 ✓ M = 10 017 ✓A	2A answer (2) 2A answer (2) 2E explanation (2) 1M multiplication 1A answer (2)	DH L1 DH L2
5.4.2	75th ✓✓A	2A answer (2)	DH L1
5.5	(a) P (toddler) = $\frac{20}{60}$ ✓A = 0,33 ✓CA (b) P (5 years old) = $\frac{0}{60}$ ✓✓A	1A answer 1CA answer (2) 2A answer (2)	DH L1 DH L1

TOTAL MARKS: 150

QUESTION 1.7.5 (a)

PLEASE TEAR ON DOTTED LINE