Province of the
EASTERN CAPE
EDUCATION

EC CURRICULUM: FET MATHEMATICS, MATHEMATICAL LITERACY AND TECHNICAL MATHEMATICS

MATHEMATICAL LITERACY

REVISION BOOKLET 1 OF 2020 (PAPER 1 QUESTIONS AND MEMORANDA)

A COLLECTION OF 2017 – 2019 NSC EXAM QUESTIONS AND MEMORANDA GROUPED ACCORDING TO QUESTIONS/TOPICS

- # MATER THE BASICS FIRST!
- HARDWORK NEVER KILLS!
- PRACTICE MAKES PERFECT!

YES

YOU

CAN!

building blocks for growth

PGDP EASTERN CAPE 2004 - 2014
PROVINCIAL GROWTH AND DEVELOPMENT PLAN
Ikamva eliqaqambileyo!

PLEASE READ:

Dear Mathematical Literacy Grade 12 learner.

Mathematical Literacy is a subject that will help you "to identify and understand the role that Mathematics play in the world, to make well-founded judgements and to use and engage with Mathematics in ways that meet the needs of your life as a constructive, concerned and reflective citizen" (OECD,1999).

Below are the main concepts and content that you need to study and practice:

1. REQUIRED RESOURCES

- A good textbook, workbooks & glossary of words. Study Guides
  A calculator, ruler and pencil.
- A collection of examination question papers and memos from previous years.

2. CONTENT CHECKLIST

Use this checklist to ensure that you have covered the content in full:

Measurement &Measurement units 1

- Convert units of measurement: between different systems (use conversion tables) and between different scales.
- Estimate, measure and calculate: length and distance, perimeter of polygons and circles, time

Measurement &Measurement units 2

- Estimate, measure & calculate: area of polygons; volume of right prisms and right circular cylinders; surface area of right prisms; surface area of right circular cylinders.
- Adjust solutions for measurement and rounding-off errors.
- ~ Scale drawings of plans: calculate values according to scale; build and interpret models.
- Maps and grids
- Find the following on a map drawn to scale:
- Location, relative position. Compass direction
- Real ground distance between any two consecutive points using a given scale.
- Latitude and longitude in global positioning systems.

Dealing with relationships: formulae, tables and graphs

- Write formulae for relationships given on a table
  in words.
- Represent relationships on a table using the given formula.
- Represent relationships given on tables or formulae graphically

Dealing with graphs, tables and formulae

- Find output values for the given input values
  (from a table/formula/graph) and vice versa.
- Predict future output values for given input values (using a table/formula/graph) and vice versa.
- Identify trends from tables/graphs.
- Compare trends from two or more graphs/ tables.

Design & planning problems

- General problem solving.

Data Handling

- Data collection methods (interviews, questionnaires. etc.)
- Populations and samples
- Summarising data (measures of central tendency and spread)
- Mean, median, mode, range, quartiles, percentiles **(interpretation**)
- Data organisation and display
- Tables, tallies, pie charts, single and compound bar graphs, histograms, line and broken - line graphs
- Use and misuse of statistics
- Sample representatively and bias.
- Misleading graphs.

Probability

- Meaning of probability, probability scale.
- Ways of expressing probability. Simple contingency tables.
- Tree diagrams.

Financial literacy

- **Personal and business finance:** budgets;
- income and expenditure;
- profit and loss.

Effects of:

- taxation,
- inflation,
- changing interest rates,
- currency fluctuations.

Interpret calculated answers in terms of contexts used.

ENJOY MATHEMATICAL LITERACY… BECAUSE YOU CAN!

QUESTION 1 QUESTIONS

NOV 2017

QUESTION 1

1.1 Definitions of some mathematical concepts are listed in TABLE 1 below.

TABLE 1: DEFINITIONS OF SOME MATHEMATICAL CONCEPTS

LETTER	DEFINITIONS
A	Middle value in an ordered data set
B	Difference between the maximum and minimum values in a data set
C	Distance from the centre of a circle to the circumference of the circle
D	Positive difference between the income and the expenditure amounts
E	Maximum distance between two points on the circumference of a circle
F	Amount received from the sale of goods or services
G	Sum of the data values divided by the number of data values

Use TABLE 1 to select the definition for EACH of the following concepts. **NOTE:** Write down only the letter (A–G) of the correct definition.

1.1.1 Profit (2)

1.1.2 Mean (2)

1.1.3 Length of the radius (2)

1.2 A gold coin shop buys and sells gold Krugerrand coins. The shop bought a one-ounce gold coin for R14 960 at 10:15 and sold it for R18 700 5 hours and 50 minutes later.

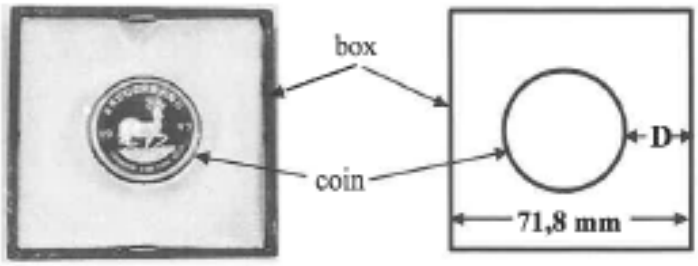
1.2.1 Calculate the profit that the shop made on this one-ounce gold coin. (2)

1.2.2 Write down the exact time when the coin was sold. (2)

1.2.3 The diameter of a one-ounce gold coin is 32,8 mm. A gold coin is placed in the centre of a square box of side length 71,8 mm, as shown below.

PHOTOGRAPH OF GOLD COIN IN SQUARE BOX

DIAGRAM



(a) Calculate the length of the radius of the coin. (2)

(b) Determine the shortest distance (**D**) between the edge of the coin and the side of the square box. (2)

1.3

Naomi buys a 2 ℓ bottle of concentrated juice.

She adds water to make 14 ℓ of diluted juice at a total cost of R44,95.

She wants to serve the diluted juice in glasses. Each glass will contain 0,175 ℓ of diluted juice.

[Adapted from graphics24.co.za]

1.3.1 Calculate the cost per litre of the diluted juice. (2)

1.3.2 Determine, in simplified form, the ratio of:

volume of concentrated juice : volume of water (2)

1.3.3 Determine the exact number of glasses of diluted juice that can be served. (2)

1.4

TABLE 2 below shows the mean monthly rainfall (in mm) and the mean number of rainy days per month for two South African cities.

TABLE 2: MEAN MONTHLY RAINFALL AND MEAN NUMBER OF RAINY DAYS PER MONTH FOR KIMBERLEY AND DURBAN

MONTH	MEAN MONTHLY RAINFALL (mm)		MEAN NUMBER OF RAINY DAYS	
	DURBAN	KIMBERLEY	DURBAN	KIMBERLEY
January	126	93	10	7
February	142	81	9	7
March	120	88	9	7
April	60	68	6	6
May	39	6	4	2
June	35	6	3	1
July	39	3	3	1
August	63	9	5	1
September	84	18	7	2
October	107	27	10	4
November	117	39	12	5
December	93	86	10	6

[Source: www.myweather2.com]

Use TABLE 2 above to answer the questions that follow.

1.4.1 Arrange the mean monthly rainfall for Durban in ascending order. (2)

1.4.2 In which month does Kimberley receive the lowest mean monthly rainfall? (2)

1.4.3 Write down the modal number of rainy days for the first six months of the year for Durban. (2)

1.4.4 In which month does Kimberley have a higher mean monthly rainfall than Durban? (2)

1.4.5 During which month(s) is the mean monthly rainfall in Durban the same? (2)

[30]

FEB 2018

QUESTION 1

1.1 A furniture store offers a dining-room suite for sale. It should be paid off in 42 equal monthly instalments of R1 078,26 (14% VAT included). No deposit is required for this offer.

[Source: www.rochester.co.za]

1.1.1 Express (in years) the total repayment period for this offer. (2)

1.1.2 Determine the total repayment cost for this dining room suite. (2)

1.1.3 The advertised price for this dining room suite is R29 999,00. The store offers 15% discount on the advertised price if the purchase is settled immediately in ONE payment.

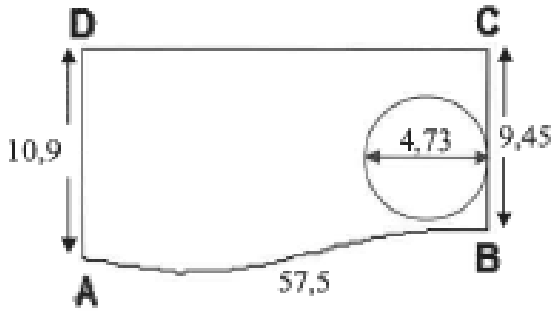
Calculate the value of the discount amount offered. (2)

1.2 The photograph and sketch below show a circular swimming pool in a portion of Annette's garden.

CIRCULAR SWIMMING POOL

[Source: www.megaide.se]

SKETCH OF THE SWIMMING POOL IN THE GARDEN WITH DIMENSIONS (in metres)



NOTE: The curved distance for AB is 57,5 m.

1.2.1 Give, in simplified form, the ratio of distance **AD** to distance **CB**. (2)

1.2.2 The perimeter of **ABCD** is 125,92 m.

Calculate the distance **CD**. (2)

1.2.3 Write down the length of the radius of the pool. (2)

1.2.4 A fence will be erected along the curved side **AB** at a cost of R97,56 per running metre.

Calculate the total cost of erecting the fence. (2)

1.3 TABLE 1 below shows the weather forecast with maximum and minimum temperatures for three cities for 29 April 2017.

TABLE 1: WEATHER FORECAST WITH MAXIMUM AND MINIMUM TEMPERATURES OF THREE CITIES FOR 29 APRIL 2017

	TEMPERATURE IN °C (Celsius)		WEATHER FORECAST	
CITY	MAXIMUM	MINIMUM	SUN AND CLOUD COVER	% CHANCE OF RAIN
A	24	6		59
B	32	26		0
C	8	−7		3

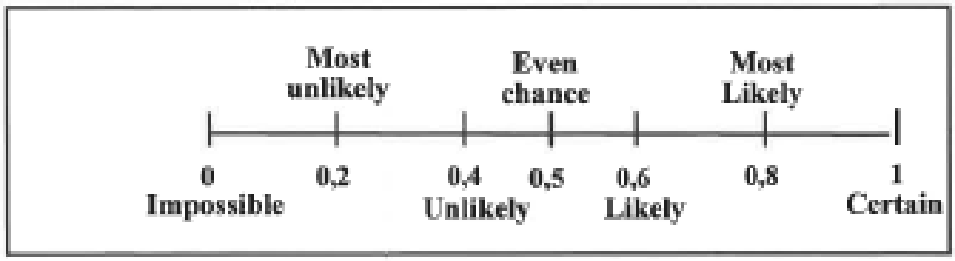
[Adapted from AccuWeather.com]

Use TABLE 1 above to answer the questions that follow.

1.3.1 Identify the city with the lowest temperature. (2)

1.3.2 Calculate the temperature range for City **C**. (2)

1.3.3 A probability scale in words and as decimal fractions is given below.



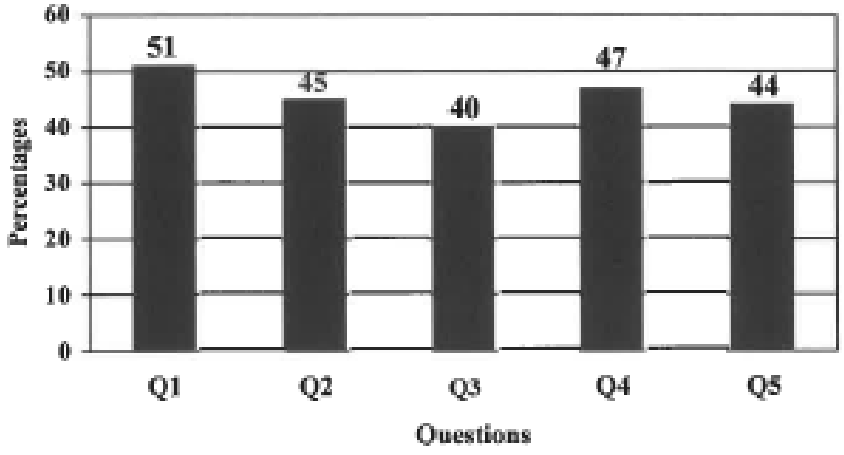
Use the probability scale and TABLE 1 above to answer the questions that follow.

(a) Identify the city that has NO chance of rain. (2)

(b) Write down, in words, the chance of rain for City **A**. (2)

1.4 361 948 candidates wrote Mathematical Literacy Paper 1 in 2016. The paper had a total of 150 marks and candidates had three hours to complete the paper. The graph below shows the average percentage mark per question for this paper.

AVERAGE PERCENTAGE MARK PER QUESTION FOR MATHEMATICAL LITERACY PAPER 1



[Source: *2016 NSC Examination Diagnostic Report*]

Use the information and the graph above to answer the questions that follow.

1.4.1 Name the type of graph used to represent the data. (2)

1.4.2 Express the number of candidates who wrote this paper in words. (2)

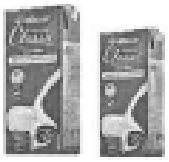
1.4.3 Identify the question in which the candidates obtained the second lowest average percentage mark. (2)

1.4.4 Determine (in minutes) the average time per mark required for this paper. (2)
[30]

NOV 2018

QUESTION 1

1.1 Happy Life Superstore advertised the specials below for the annual Black Friday in 2017.

 2 ℓ bottles Coke, Sprite and Fanta 30% OFF R11 each		 Ariel 50% OFF R45 each	
 Sunlight 35% OFF R18	 Classic 45% OFF R15 each	 Liquifruit 40% OFF R22 each	 Weetbix Save R20 R44
 Jacobs Save R35 R65 each	 Airborne Save R25 R30 per pack	 hth Save R70 R250	 Gaviscon Save R30 R43

[Source: www.checkers.co.za]

NOTE:

- 1 ℓ = 1 000 mℓ
- ALL amounts given INCLUDE the discount

Study the advertisement above to answer the questions that follow.

1.1.1 Write down the number of day(s) on which these prices are valid. (2)

1.1.2 Calculate the original price of hth before the saving. (2)

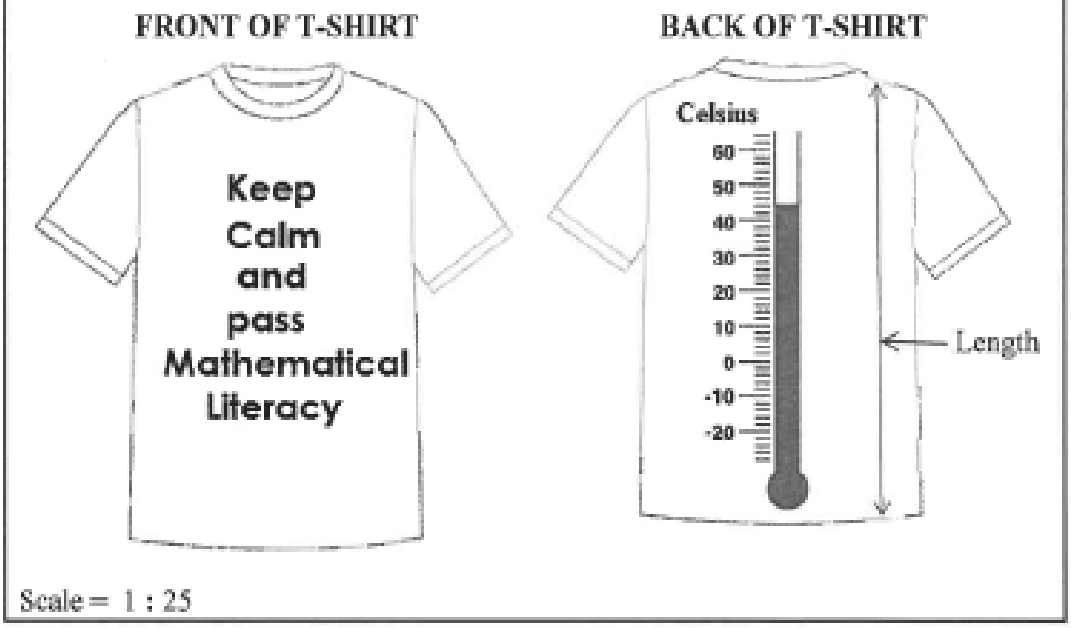
1.1.3 Write down the name of the product which is now half price. (2)

1.1.4 Convert 750 mℓ to litres. (2)

1.1.5 Calculate the total price of ONE 2 ℓ-bottle of Coca Cola and TWO 2 ℓ-bottles of Fanta. (2)

1.1.6 Arrange ALL the sale prices in ascending order. (2)

1.2 The picture below is a scaled drawing of a T-shirt for Grade 12 learners.



Scale = 1 : 25

1.2.1 Calculate the number of letters needed to print the logo on the front of the T-shirt. (2)

1.2.2 Write down the temperature displayed on the thermometer in °C. (2)

1.2.3 Explain the meaning of the scale in the drawing above. (2)

1.2.4 Measure the length of the back of the T-shirt in mm, as indicated in the drawing. (2)

1.3 The Two Oceans Marathon and the Comrades Marathon are two of the most popular ultramarathons in the world.

TABLE 1 below shows the dates, distances and entry fees of these marathons.

TABLE 1: TWO OCEANS MARATHON VS COMRADES MARATHON

	TWO OCEANS	COMRADES
Date (2017)	15 April 2017	4 June 2017
Distance	56 km	89 km
Entry fee	R520,00	R460,00

[Adapted from www.capetownmagazine.com and www.news.comrades.com]

Use TABLE 1 above to answer the questions that follow.

1.3.1 Which race took place first? (2)

1.3.2 Which one of the two races had the longest distance? (2)

1.3.3 Determine the difference between the entrance fee of the Two Oceans Marathon and the entrance fee of the Comrades Marathon. (2)

1.4 The Comrades Marathon Association (CMA) has issued its medical statistics for the race held on Sunday 4 June 2017.
Start of the race: 05:30
End of the race: 17:30

TABLE 2 shows the medical statistics on race day.

TABLE 2: MEDICAL STATISTICS

Athletes starting the race	17 031
Athletes finishing the race	13 852
Athletes treated in the medical tent	400
Hospital-treated athletes	90
Hospital-admitted athletes	40

[Adapted from http://www.runnersworld.co.za]

Use TABLE 2 above to answer the questions that follow.

1.4.1 Write down the maximum time given to the athletes to complete the Comrades Marathon. (2)

1.4.2 State if the medical statistics data is discrete or continuous. (2)

1.4.3 Write down the ratio of athletes starting the race to the athletes finishing the race. (2)
[32]

NOV 2019

QUESTION 1

1.1 In 2019/20 the South African government increased the social grants as indicated in TABLE 1 below.

TABLE 1: SOCIAL GRANTS FOR 2019–2020

TYPES	MARCH 2019	MARCH 2020
Pension allowances younger than 75	R1 695	R1 780
Pension allowances older than 75	R1 715	R1 800
War veteran allowances	R1 715	R1 800
Disability allowances	R1 695	R1 780
Foster care allowances	R960	R1 000
Care dependent allowances	R1 695	R1 780
Child support allowances	R405	R425

[Adapted from www.treasury.gov.za/Rapport]

Use TABLE 1 above to answer the questions that follow.

1.1.1 Is the type of data in TABLE 1 numerical data or categorical data? (2)

1.1.2 Identify the modal allowance amount for March 2020. (2)

1.1.3 Arrange the social grants for March 2019 in descending order of value. (2)

1.1.4 Determine (in rand) the increase in the disability allowances for March 2020. (2)

1.1.5 Write down the type(s) of allowances which represents the highest amount in March 2020. (2)

1.2 Naomi owns a spaza shop in Gugulethu. She buys her stock from a wholesaler in Cape Town. Below is some of the stock that she buys weekly.

		
2,5 kg Hullets white sugar Cost price: R32,99 Total selling price: R42,90	400 g Koo Hot and Spicy Chakalaka Cost price: R10,99 Total selling price: R14,30	2 kg Tastic long grain parboiled rice Cost price: R22,99 Total selling price: R29,20

[Adapted from www.lateststpecials.co.za]

Use the information above to answer the questions that follow.

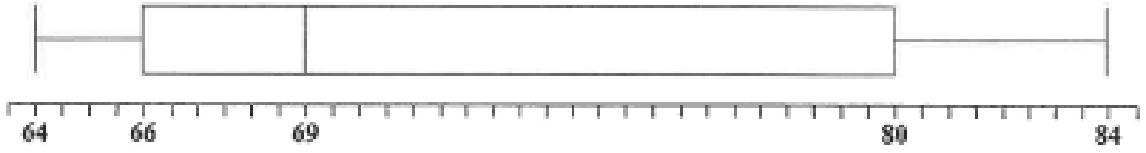
1.2.1 Convert 400 g to kg. (2)

1.2.2 Determine the profit she will make if she sells a can of Hot and Spicy Chakalaka. (3)

1.2.3 She buys a 2,5 kg pack of white sugar and repacks the sugar into 250 g packets.
Determine how many packets she will be able to get from ONE pack of 2,5 kg sugar. (3)

1.2.4 The 2 kg Tastic rice is divided into 8 smaller packets.
Calculate the selling price of ONE small packet. (2)

1.3 Candidates sat for the National Senior Certificate examinations in November 2018. The box-and-whisker plot below shows the five-number summary of the average pass percentages for Mathematical Literacy.



[Adapted from *NSC 2018 School Subject Report*]

Use the box-and-whisker plot above to answer the questions that follow.

1.3.1 Write down the pass percentage that represents the following:

(a) The median (2)

(b) Quartile 3 (2)

1.3.2 Determine the difference between the highest and the lowest pass percentage. (2)

1.4 Kimberley experienced heavy thundershowers on 11 March 2019. Celeste, a resident of Kimberley, studied the weather forecast below relating to the following day to determine whether it was necessary to take an umbrella to work.

HOURLY WEATHER FORECAST FOR KIMBERLEY – 12/03/2019

13:00	14:00	15:00	16:00	17:00
29 °C	29 °C	29 °C	28 °C	26 °C
N	NNW	NNW	NNW	NW
20%	20%	20%	37%	64%

[Adapted from www.rainboo.co.za]

Use the information above to answer the questions that follow.

1.4.1 At what time of the day is the temperature expected to be 28 °C? (2)

1.4.2 Determine the probability that it will rain when Celeste leaves work at 2:30 p.m. (2)

[30]

FINANCE

NOV 2017

QUESTION 2

2.1 TABLE 3 below shows the bus fare (in rand), including 14% VAT, for a single trip.

TABLE 3: BUS FARE IN RAND FOR A SINGLE TRIP

	Port Elizabeth	Grahamstown	King William's Town	Queenstown	Aliwal North	Bloemfontein	Welkom
Port Elizabeth		305	320	395	410	435	515
Grahamstown	305		305	385	410	435	515
King William's Town	320	305		350	410	435	465
Queenstown	395	385	350		365	410	455
Aliwal North	410	410	410	365		410	435
Bloemfontein	435	435	435	410	410		335
Welkom	515	515	465	455	435	335	

[Source: www.greyhound.co.za]

Use TABLE 3 above to answer the questions that follow.

2.1.1 Write down the SECOND highest bus fare for a single trip between two cities. (2)

2.1.2 Between which two cities is the single bus fare R350,00? (2)

2.1.3 A person travels from Port Elizabeth to Bloemfontein via another city, City X, and uses two different buses. The total cost for this one-way trip is R755.

(a) Calculate the cost from Port Elizabeth to City X. (2)

(b) Hence, identify City X. (2)

2.1.4 Determine the cost, excluding 14% VAT, of a single bus fare of R365,00. (3)

2.1.5 Lindiwe travels from Queenstown to Bloemfontein and back once a month.

Calculate her total return travelling cost for ONE year. (4)

2.2 ANNEXURE A shows an adapted municipal account statement (property rates and services account) of Mr Fortune.

Use ANNEXURE A to answer the questions that follow.

2.2.1 Write down the valuation date (month and year) of Mr Fortune's property. (2)

2.2.2 Name the municipal services that Mr Fortune is charged for. (2)

2.2.3 Determine the end date of the reading period of this statement. (2)

2.2.4 Show how the daily average water consumption of 0,522 kℓ was calculated. (2)

2.2.5 Name and explain which service on this statement is a variable expense. (3)

2.2.6 Determine the missing value:

(a) **A** (2)

(b) **B** (2)

2.2.7 Calculate the monthly sewerage rate (excluding 14% VAT) per square metre for this property. (2)

2.2.8 Write down the unpaid amount for December 2016. (2)

2.2.9 Mr Fortune paid R1 800 on 15 January 2017.

Name the type of rounding he used to obtain this amount. (2)

2.3 Rajesh exchanged a gift of £360,00 to South African rand at a bank.

The exchange rate was **R1,00 = £0,05773**.

The bank charged 1,95% commission on the amount exchanged.

Rajesh then invested R5 000 of his gift in a fixed deposit account for $1\frac{1}{2}$ years at a compound interest rate of 6,3%, per annum.

[Adapted from http://www.xe.com and www.fnb.co.za]

2.3.1 Calculate (in pounds) the amount of commission Rajesh paid. (2)

2.3.2 Convert £360,00 to rand. (3)

2.3.3 Calculate (without the use of a formula) the value of the fixed deposit at the end of $1\frac{1}{2}$ years. Show ALL the steps of the calculation. (5)

[46]

FEB 2018
QUESTION 2

2.1 Mapotjo contributes a regular monthly amount from her salary towards a retirement annuity. This amount is deducted from her salary through a stop order on the 15th day of each month.

Below is a summary of the statement of her retirement annuity, as on 10 May 2017.

Policy number	0097541
Maturity date	1 November 2029
Monthly contribution	R740,22
Payment frequency	Monthly
Current death value	R189 817,05
Retirement value – Lower inflation rate	R536 523,25
Retirement value – Higher inflation rate	R940 465,89

[Source: www.my portfolio. co.za]

Use the information above to answer the questions that follow.

2.1.1 Define the concept *stop order*. (2)

2.1.2 Calculate the difference between the TWO retirement values. (2)

2.1.3 Determine the number of monthly contributions that still need to be paid by Mapotjo before the policy matures. (4)

2.1.4 Determine the total value of the contributions over five years if her monthly contribution remains the same. (3)

2.1.5 Fill in the missing word(s) to make the following statement TRUE.

An annual increase in the monthly contribution would result in … maturity value. (2)

2.1.6 Show that if her monthly contribution increased by 8,5%, then the new monthly deduction from her salary would be R803,14. (2)

2.2 Zoom Car Wash employs a supervisor, eight general cleaners and a machine operator. The cleaners work for seven days a week, where Monday to Saturday is regarded as normal working hours.

TABLE 2 below shows the hourly wage rate for EACH of the worker groups for 2016 and 2017.

TABLE 2: ZOOM CAR WASH NORMAL HOURLY WAGE RATE (IN RAND PER HOUR) FOR 2016 AND 2017

WORKER GROUP	2016	2017
Supervisor	**A**	21,93
General cleaners	16,40	17,76
Machine operator	17,90	19,39

[Adapted from Mywage.co.za]

NOTE:

- Normal working hours: 08:30 to 17:30
- Overtime is paid at time and a third of the normal hourly rate.
- The Sunday wage rate is 150% of the normal hourly rate.

Use TABLE 2 above to answer the questions that follow.

2.2.1 Calculate the 2017 overtime hourly rate for a general cleaner. (2)

2.2.2 Determine the total wage a machine operator would earn for working only THREE Sundays. (5)

2.2.3 All the workers received a wage increase at the beginning of 2017.

(a) Show, by calculation, that the wage increase was 8,3%. (2)

(b) Calculate the missing value **A**. (3)

2.2.4 A general cleaner worked normal working hours for a full week.

Calculate his total weekly wage. (3)

2.3 TABLE 3 below shows the record of the vehicles washed on a particular day.

TABLE 3: RECORD OF VEHICLES WASHED ON A PARTICULAR DAY

CATEGORY	NUMBER	COST PER VEHICLE
Bakkies	7	R70
Cars	35	R50
Minibus	4	R75

Calculate the total income received for the vehicles washed on this particular day. (4)

2.4 The supervisor at Zoom Car Wash has to report for duty 30 minutes earlier than the normal starting time, from Monday to Saturday but leaves work at the same time as the other workers. He receives a monthly salary, works every Sunday and is paid overtime.

TABLE 4 below shows a monthly salary slip (some data omitted) for the supervisor.

TABLE 4: MONTHLY SALARY SLIP FOR THE SUPERVISOR

SALARY SLIP			
Name of employer	Zoom Car Wash		
Address	12 Stateway Welkom, 9460		
Name of employee	M Ncubuka		
ID No.: 890106 5387 000	Employee No.: 124567		
Position	Supervisor		
Payment period: 1 November 2017 to 30 November 2017			
	RATE	**TOTAL HOURS (hrs × days × weeks)**	**AMOUNT IN RAND**
Normal hours worked	21,93	…	**B**
Sunday hours (1,5 normal rate)	32,90	9 × 1 × 4	1 184,40
Overtime hours worked/ ($1\frac{1}{2}$ of normal rate)	…	0,5 × 6 × 4	350,88
TOTAL Gross Salary			6 272,16
UIF (1% of gross salary)			…
Net salary			**6 209,44**

[Source: www.zoomhandcarwash.com]

NOTE: Employer and employee each contribute a monthly amount of 1% of the employee's gross salary for UIF.

Use TABLE 4 above to answer the questions that follow.

2.4.1 Explain the term *employer*. (2)

2.4.2 State ONE benefit of contributing towards the UIF. (2)

2.4.3 Calculate:

(a) The value of **B** (3)

(b) The total UIF amount that must be paid on behalf of M Ncubuka to the Department of Labour (3)

[44]

NOV 2018

QUESTION 2

2.1 ANNEXURE A shows the student fees statement for Tamryn Abrahams, a second-year Architecture student at the University of Cape Town (UCT).

Use ANNEXURE A to answer the questions that follow.

2.1.1 Explain the meaning of the term *interest* with reference to the student fees statement. (2)

2.1.2 Write down the balance (excluding interest) that was brought forward on the last day of the previous year. (2)

2.1.3 Calculate the monthly interest rate that was used on the overdue fees for the previous year. (3)

2.1.4 Write down the code and the name of the module/course that is the most expensive. (2)

2.1.5 Show how the amount of R6 317,70 was calculated. (2)

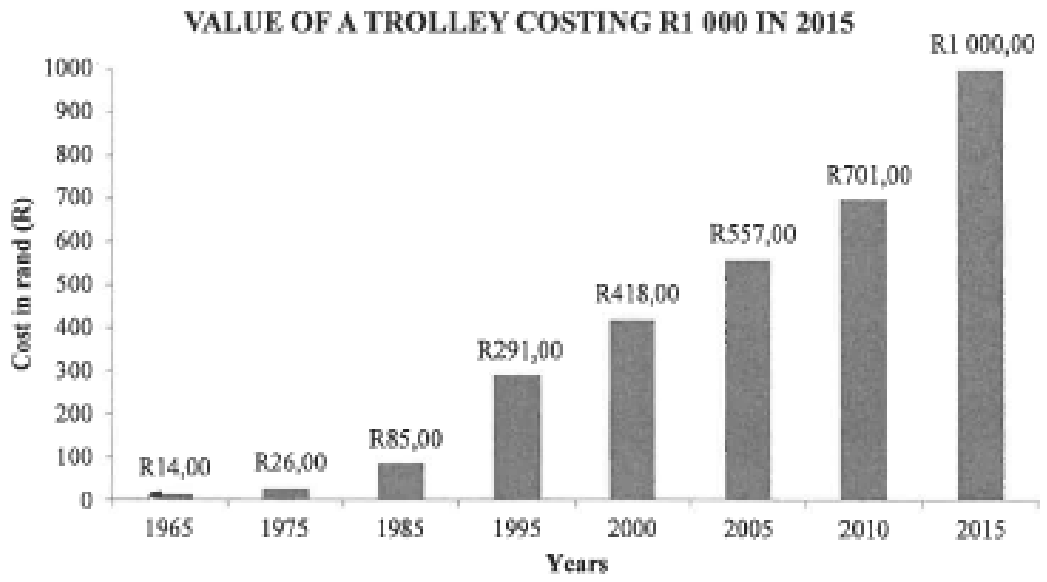
2.1.6 Calculate the total amount debited to this account for the courses studied in the 2017 academic year including interest on overdue fees in 2017. (3)

2.1.7 State the payment method used to transfer money into this account. (2)

2.1.8 A family friend paid the balance of R40 386,60 on condition that the amount could be paid back in equal monthly instalments, interest free.

Show how the monthly instalment of R8 077,32 was calculated if the first payment was due on 1 November 2017 and the last payment was due on 1 March 2018. (2)

2.2 The graph below shows the effect of inflation from 2015 going back 50 years.



Below are certain South African items and their prices for the years 1970 and 2015.

		PRICE IN 1970	PRICE IN 2015
Spur burger		R0,30	R62,90
Cheddamelt steak		R0,50	R104,90
Ricoffy 750 g		R0,25	R75,00
Nestlé condensed milk		R0,10	R19,00

[Source: www.inflation.eu]

Use the information above to answer the questions that follow.

2.2.1 Explain the term *inflation* within the given context. (2)

2.2.2 Write down the price of a Spur burger in 1970. (2)

2.2.3 Calculate by how much the cost, in rand, of a trolley had increased from 2000 to 2005. (3)

2.2.4 Calculate the percentage increase of Ricoffy from 1970 to 2015.
You may use the following formula:

$$\textbf{Percentage increase} = \frac{\textbf{new amount} - \textbf{original amount}}{\textbf{original amount}} \times \mathbf{100\ \%}$$

(3)

2.2.5 A cheddamelt steak was sold for R104,90 at a percentage profit of 17,5%. Determine the cost price. (2)

2.3 TABLE 3 below shows the national budget and education budget of South Africa for 2017/18.

TABLE 3: NATIONAL BUDGET AND EDUCATION BUDGET OF SOUTH AFRICA FOR 2017/2018

NATIONAL BUDGET OF SOUTH AFRICA (IN RAND)		EDUCATION BUDGET OF SOUTH AFRICA (IN RAND)	
Economic affairs and agriculture	241,6 billion	Basic education	216,7 billion
Defence and public safety	198,7 billion	University subsidies	31,6 billion
Health	187,5 billion	Education administration	15,8 billion
General admin	70,7 billion	Skills development levy institutions	21,1 billion
Local development and infrastructure	195,8 billion	National student financial aid scheme (NSFAS)	15,3 billion
Debt service costs	162,4 billion	Technical and vocational education and training	7,5 billion
Social protection	180,0 billion	Other	12,5 billion
Education	320,5 billion		

[Adapted from www.graphics24.com]

Use TABLE 3 above to answer the questions that follow.

2.3.1 Which of the amounts below represents the economic affairs and agriculture budgets?

A 24 160 000
B 241 600 000 000
C 241 600 000
D 24 160 000 000 000 (2)

2.3.2 Explain the term *budget* within the context above. (2)

2.3.3 Write down the item which receives the third most money from the education budget. (2)

2.3.4 Calculate the percentage of the total education budget that is allocated to the NSFAS. (3)

2.3.5 University subsidies comprise about 9,86% of the total education budget. Estimate the combined budget, as a percentage, for education administration and the NSFAS. (2)
[41]

NOV 2019

QUESTION 2

2.1 ANNEXURE A shows an extract from Mr Daniels' monthly municipal statement including the residential water and sewer tariff tables.

Use the information in ANNEXURE A and answer the questions that follow.

2.1.1 Write down the market value in words. (2)

2.1.2 Calculate the VAT amount for the sewer monthly charge on a stand larger than 2 000 m^2. (2)

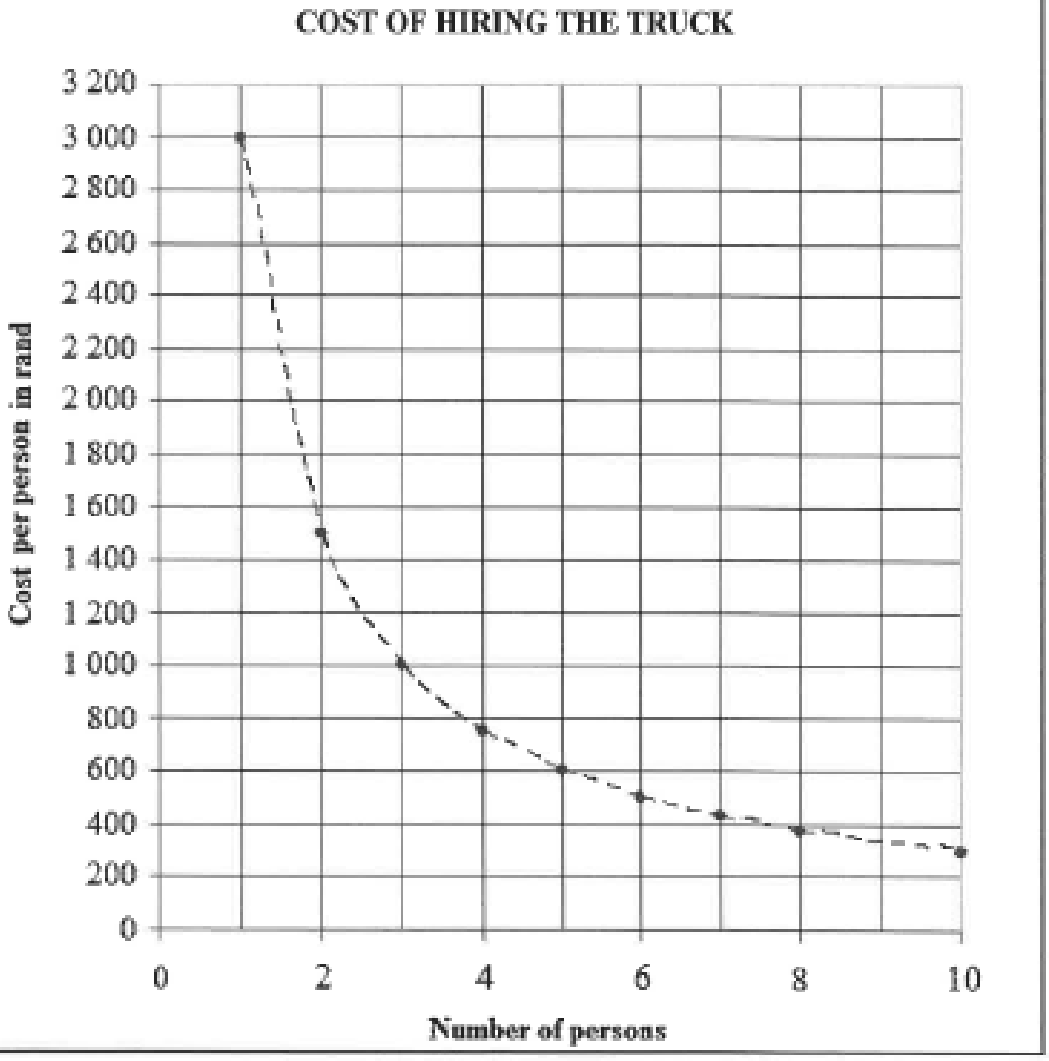
2.1.3 Write down the unit of measurement that was used for the meter readings. (2)

2.1.4 Determine the value of **A**. (2)

2.1.5 Use the stepped residential water tariff table to calculate the value of **B**, the total amount for water usage. (4)

2.2 Josh owns a specially designed refuse removal truck. He hires out this truck at a daily rate of R3 000, excluding fuel. A group of friends decided to use the truck for the day to carry their refuse to the nearby dumping ground.

The graph below indicates the amount each person will pay depending on the number of friends.



Use the graph above to answer the questions that follow.

2.2.1 State the type of proportion represented in the graph above. (2)

2.2.2 Write down the number of friends in the group if each paid R500. (2)

2.2.3 Calculate the amount each person will pay if 7 friends hired the truck. (3)

2.2.4 Josh saved R500,00 each month since earning his first profit. He has now accumulated an amount of R17 000,00.

TABLE 2 below shows the simple interest rates that would be earned over fixed time periods for amounts ranging from R10 000,00 to R99 999,00.

TABLE 2: SIMPLE INTEREST RATES FOR FIXED TIME PERIODS

TERM (MONTHS)	R10 000–R24 999	R25 000–R99 999
	INTEREST RATE PER YEAR	INTEREST RATE PER YEAR
6	7,12%	7,23%
12	7,76%	8,08%
18	7,87%	8,41%
24	8,08%	8,57%
36	8,30%	8,84%
48	8,46%	9,00%

[Adapted from www.capitecbank.co.za]

Use TABLE 2 above to answer the questions that follow.

(a) Determine (in months) how long he took to save R17 000,00. (2)

(b) Write down the interest rate he will get if he invests his money for 3 years. (2)

(c) Determine (rounded to the nearest R100) the amount of interest Josh will earn if he invests his accumulated savings for 3 years. (3)

(d) Sifiso wants to invest R24 000,00 for 48 months instead of 12 months.

Calculate the difference in percentage points for the interest rate. (2)

(e) Write down the minimum number of years and months a person must invest R25 000,00 to earn an interest rate of 8,41%. (3)

2.3 The government receives income from various sources, like tax and loans. This income is then distributed to the different sectors.

TABLE 3 below shows the source of the income and the expenditure for the 2019/20 tax year.

TABLE 3: GOVERNMENT SOURCES OF INCOME AND EXPENDITURE FOR 2019/20

INCOME		EXPENDITURE	
SOURCE	**AMOUNT (in billion rand)**	**SECTOR**	**AMOUNT (in billion rand)**
Tax	1 370	Social Development	278,4
Loans	242,7	Basic Education	262,4
Other income	180,3	Health	222,6
Non-tax income	31,5	Peace and Safety	211,0
		Economic Development	209,2
		Community Development	208,5
		Debt Service Cost	202,2
		Further Education and Training	112,7
		Other	**B**
TOTAL	**A**		**1 823,72**

[Adapted from www.treasury.gov.za/Rapport]

Use TABLE 3 above to answer the questions that follow.

2.3.1 Write the amount received from loans as a number in millions. (2)

2.3.2 Calculate the missing value **A**. (2)

2.3.3 Calculate the missing value **B**. Show ALL calculations. (4)

2.3.4 Determine the amount allocated for Community Development as a percentage of the total expenditure. (3)
[42]

MEASUREMENT

NOV 2017

QUESTION 3

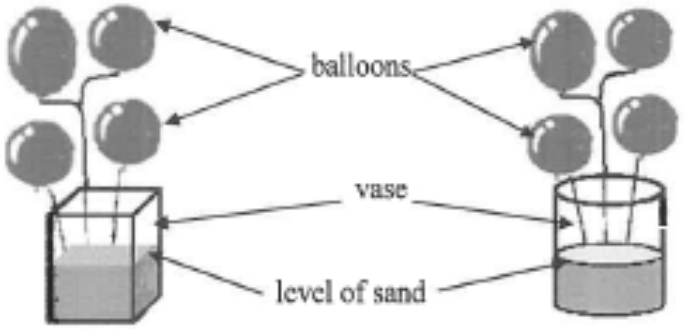
3.1

Happy Life High School makes table centrepieces, each consisting of four balloons in a vase filled with sand, for the 2017 Ball.

The school expects 240 people at the ball. Each table will accommodate a maximum of 8 people and ONE centrepiece will be placed on each table.

The diagrams below show the two types of centrepieces that will be used.

RECTANGULAR VASE **CYLINDRICAL VASE**



Dimensions of rectangular vase:

Length = 10 cm
Width = 6 cm
Height = 28 cm

Dimensions of cylindrical vase:

Diameter = 12 cm
Height = 28 cm

[Adapted from google.com]

Use the information above to answer the questions that follow.

3.1.1 Calculate the minimum number of balloons required for all the centrepieces. (2)

3.1.2 Each vase will have a decorative ribbon around it. The ribbon will overlap 1 cm.

Calculate the minimum length of decorative ribbon needed to decorate ONE rectangular vase.

You may use the following formula:

Length of decorative ribbon (in cm) = 2 × (length + width) + 1 (3)

3.1.3 Calculate (in cm^3) the volume of the cylindrical vase.

You may use the following formula:

Volume of a cylinder = π × (radius)^2 × height, using $\pi = 3{,}142$ (3)

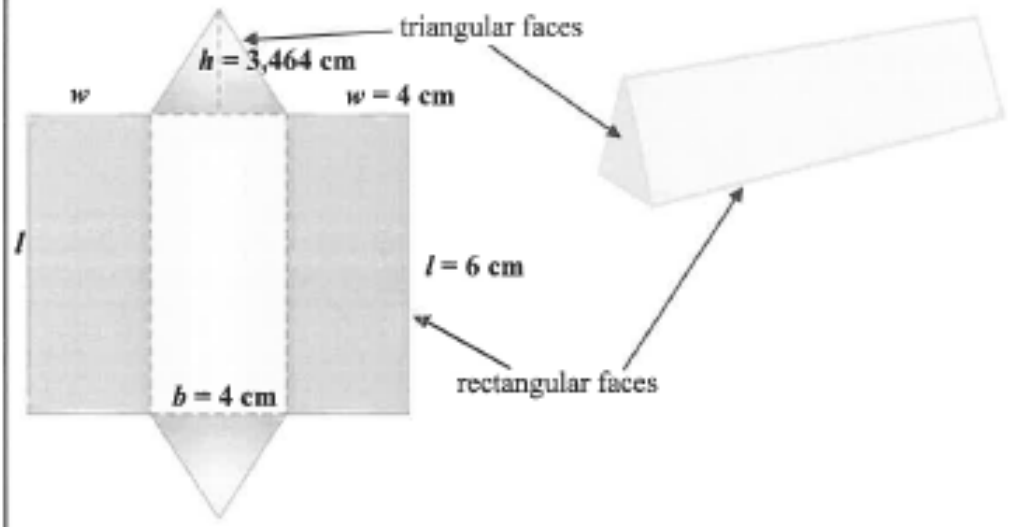
3.1.4 The volume of the rectangular vase is 1 680 cm^3.

- 45% of the vase will be filled with sand.
- The mass of 1 cm^3 of sand is 1,53 g.

Calculate (in kg, rounded off to TWO decimal places) the mass of sand required for ONE rectangular vase. (4)

3.2 The ladies attending the ball will each receive a triangular-shaped gift box. The box is made up of three identical rectangular faces and two identical triangular faces, as shown in the diagrams below. Each box will be covered in gold foil.

Net of triangular-shaped gift box **Picture of triangular-shaped gift box**



Dimensions of rectangular faces:

- Length (l) = 6 cm
- Width (w) = 4 cm

Dimensions of triangular faces:

- Base (b) = 4 cm
- Height (h) = 3,464 cm

3.2.1 Calculate (in cm^2) the area of ONE triangular face of the gift box.

You may use the following formula:

Area of a triangle = $\frac{1}{2}$ × base × height (3)

3.2.2 Hence, determine the total surface area (in cm^2) of the box.

You may use the following formula:

Total surface area of a triangular prism
= 2 × (area of triangular face) + 3 × length × width (4)

3.2.3 It takes 30 minutes to cover 20 boxes with foil.

Calculate (in seconds) the average time it will take to cover ONE box with foil. (2)
[21]

FEB 2018

QUESTION 3

3.1 A nurse from Port Allen Clinic conducts road shows to demonstrate the use of growth charts to parents. She uses a weight-for-age chart for boys as on ANNEXURE A, which shows the recorded measurements of a boy for three visits.

Use ANNEXURE A to answer the questions that follow.

3.1.1 Identify the age group represented on this chart. (2)

3.1.2 Give the boy's weight at his first visit. (2)

3.1.3 Determine the boy's age (in months) during a visit when he weighed a little less than 9 kg. (2)

3.1.4 The boy's first visit was in May.

Determine the month in which the third visit took place. (2)

3.1.5 During the fourth visit, the boy weighed 11,2 kg and his body mass index (BMI) was calculated as 19,5 kg/m^2.

Calculate the boy's corresponding height (in metres) rounded off to THREE decimal places.

You may use the following formula: $\textbf{BMI} = \dfrac{\textbf{weight (in kg)}}{\textbf{(height in m)}^2}$ (4)

3.2 The nurse uses a sedan vehicle to travel. The fuel consumption of her vehicle is 7,6 litres per 100 km travelling at an average speed.

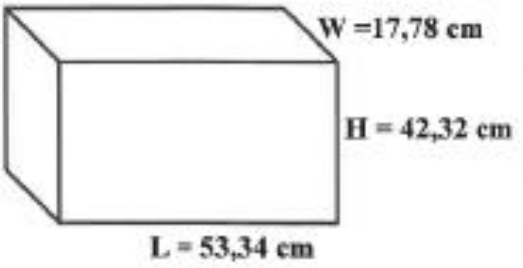
[Adapted from m.automobilio.info]

3.2.1 Calculate (to the nearest km) the distance her vehicle can travel using 55 litres of petrol. (3)

3.2.2 The nurse spends 1 hour and 45 minutes on a particular day driving between two workstations that are 189 km apart. Determine the average speed of the vehicle.

You may use the following formula: $\textbf{Average speed} = \dfrac{\textbf{distance}}{\textbf{time}}$ (3)

3.3 The dimensions (in centimetres) of a nurse's rectangular medicine box are given below.

RECTANGULAR MEDICINE BOX	DIMENSIONS OF THE MEDICINE BOX WITHOUT THE HANDLE
 [Source: Amazon.co.uk]	 **L** = length **W** = width **H** = height **NOTE:** 1 litre = 1 000 cm^3

3.3.1 Calculate the volume (to the nearest litre) of ONE medicine box excluding the handle.

You may use the following formula:

Volume = length × width × height (4)

3.3.2 The medicine box contains FOUR identical smaller boxes. EACH small box contains four different types of pills in cylindrical containers which are labelled **A**, **B**, **K** and **U**, as shown below.

[Source: Forgetting The Pill.com]

Determine (as a decimal fraction) the probability of randomly selecting a type **U** container from the medicine box. (3)

[25]

NOV 2018

QUESTION 3

3.1 Liam and Amy are planning their wedding. Amy wants a four-layer red velvet wedding cake. She must still decide between a cylindrical or rectangular cake as shown on ANNEXURE B.

Use ANNEXURE B to answer the questions that follow.

3.1.1 Determine the total height of the cylindrical cake in millimetres. (3)

3.1.2 The base (bottom) layer of the cylindrical cake has a radius of 14 cm.

(a) Determine the diameter of the base layer in cm. (2)

(b) Calculate the volume (in cm^3) of the base layer.

You may use the following formula:

Volume of a cylinder $= \pi \times (\textbf{radius})^2 \times \textbf{height}$, and using $\pi = 3{,}142$ (3)

3.1.3 Define the term *perimeter*. (2)

3.1.4 Calculate the area (in cm^2) of the base of the pan needed to bake the top layer of the rectangular cake.

You may use the following formula:

Area = length × width (2)

3.2 Aunt Abby will bake the wedding cake. She will be using a recipe from a recipe book published in England.

NOTE:
- 1 kg = 2,25 pounds
- 1 mℓ flour = 0,7 g flour

3.2.1 Aunt Abby needs 3 and a half pounds of butter.

Determine the mass of butter, in kilogram. (2)

3.2.2 Aunt Abby only has a kitchen scale available.

If aunt Abby needs 625 mℓ of flour, determine the mass of the flour in grams. (2)

3.2.3 The cake must be baked at 356 °F.

Determine to what degree Celsius the oven should be turned.

You may use the following formula:

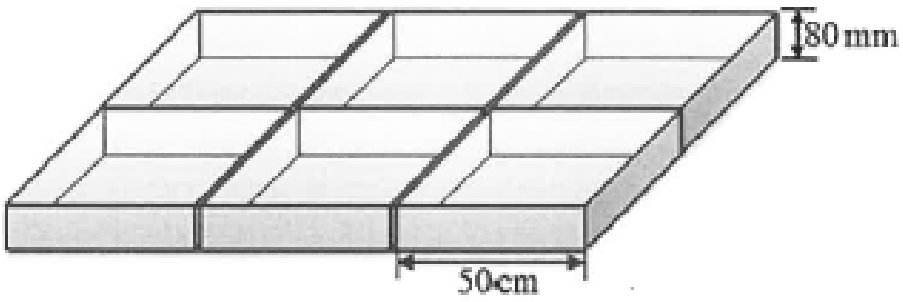
°C = (°F – 32°) ÷ 1,8 (2)

[18]

NOV 2019

QUESTION 3

3.1 African Concrete Blocks is a company that manufactures square concrete blocks. The diagram below shows the six steel moulds that they use to make the square concrete blocks.



[Adapted from www.researchgate.net]

Use the diagram above to answer the questions that follow.

3.1.1 Explain the meaning of *volume*. (2)

3.1.2 Calculate (in m^3) the volume of ONE concrete block.

You may use the following formula:

Volume = side × side × height (3)

3.2 Thabiso wants to renovate the walkway in his garden. He wants to replace the grass on the walkway with concrete blocks and pebbles.

The dimensions of the walkway, as shown in ANNEXURE B, will be 4,05 m by 1,45 m.

Use ANNEXURE B to answer the questions that follow.

3.2.1 Calculate (in m^2) the total area of the 12 concrete blocks.

You may use the following formula:

Area = side × side (3)

3.2.2 Calculate the area of the walkway that needs to be covered with pebbles.

You may use the following formula:

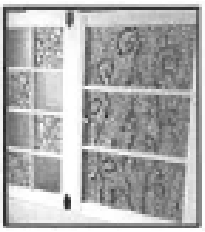
Area = length × breath (4)

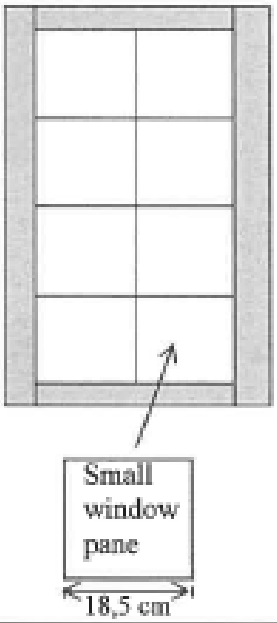
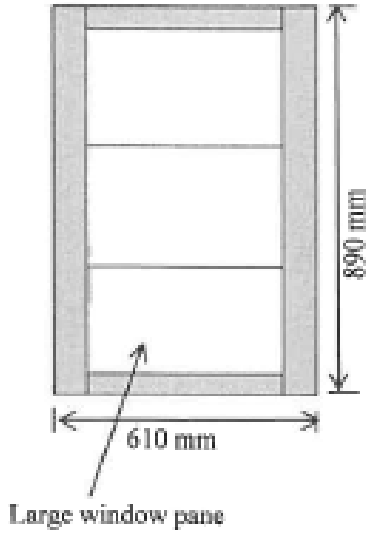
3.2.3 Calculate the total number of bags of pebbles needed to cover an area of 5,7 m^2. (3)

3.3 As part of the renovations, Thabiso will also be changing the look of two different windows near the walkway. The glass panes of the window frame will be decorated with glass beads glued onto the glass pane as indicated in the picture below.

PICTURE AND DIAGRAM OF THE SMALL AND LARGE WINDOW PANES IN WINDOW FRAMES

PICTURE



SMALL SQUARE WINDOW PANES IN A FRAME	LARGER RECTANGULAR WINDOW PANES IN A FRAME
	

[Adapted from www.pinterest.com]

Use the information and diagrams above to answer the questions that follow.

3.3.1 Determine (in cm) the length of the frame of the large window. (2)

3.3.2 Calculate the perimeter of one small window pane. (2)

3.3.3 The radius of one glass bead is 1,85 cm.
Determine how many glass beads will fit along the length of one small window pane. (3)

3.3.4 The total width of 2 small window panes equals $\frac{3}{4}$ the width of one large window pane.
Calculate the width of a large window pane. (4)

[26]

MAPS, PLANS AND OTHERE REPRESENTATIONS OF THE PHYSICAL WORLD

NOV 2017

QUESTION 4

4.1 ANNEXURE B shows a route map and information regarding the 42,2 km 2017 Cape Town Marathon.

Use ANNEXURE B to answer the questions that follow.

4.1.1 Name the type of scale used for the route map. (2)

4.1.2 What type of view is represented on this route map? (2)

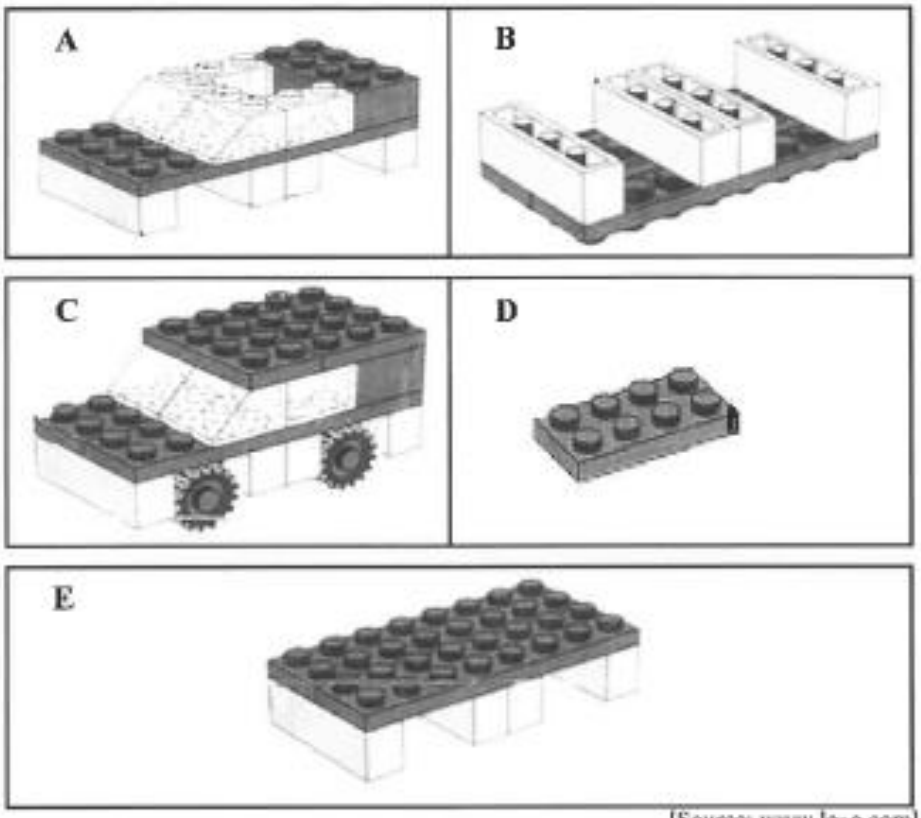
4.1.3 Name the general direction of the Groote Schuur Hospital (Tourist Attraction 10) from the starting point of the marathon. (2)

4.1.4 Determine the exact number of medical help points located on the route. (2)

4.1.5 Identify the suburbs in the vicinity of the halfway mark. (2)

4.1.6 Identify the tourist attractions indicated on the map between the 15 km mark and the 20 km mark. (3)

4.2 The diagrams below show a set of labelled assembly instructions (not in order of assembly) to build a toy car with Lego blocks.



[Source: www.lego.com]

Study the diagrams above to answer the questions that follow.

4.2.1 Write down the correct order of the assembly instructions to build the toy car, using the letters **A**, **B**, **C**, **D** and **E**. (2)

4.2.2 Which letter (**A**, **B**, **C**, **D** or **E**) fits the instruction, 'Flip over the part-assembly'? (2)

4.2.3 A can of Lego blocks contains 20 red blocks, 25 blue blocks, 28 green blocks, 30 black blocks and 27 white blocks.

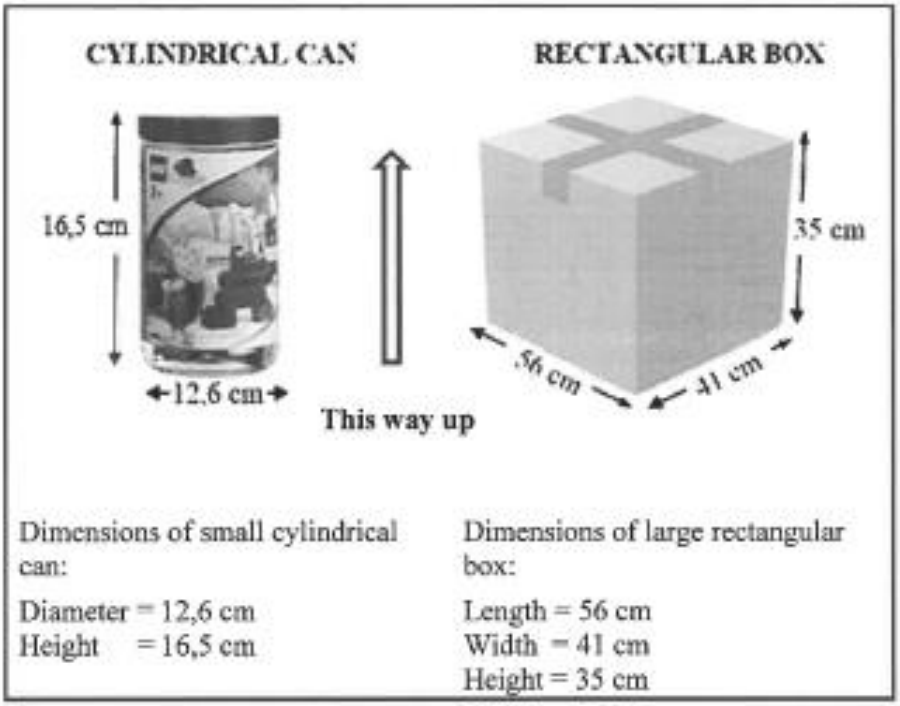
A block is randomly selected from the can.

Determine the probability that the block will be the following:

(a) Yellow (2)

(b) Blue (3)

4.2.4 The building blocks are packed into small cylindrical cans that are then packed into a large rectangular box, as shown in the diagrams below.



Dimensions of small cylindrical can:	Dimensions of large rectangular box:
Diameter = 12,6 cm	Length = 56 cm
Height = 16,5 cm	Width = 41 cm
	Height = 35 cm

The cylindrical cans are placed upright in the box.

(a) Determine the number of layers of cans that can be placed in an upright position in the box. (2)

(b) Hence, determine the maximum number of cans that can be packed into ONE box. (3)
[27]

FEB 2018

QUESTION 4

4.1 Rammone plans to travel from Colesberg to Port Elizabeth using only national roads.

ANNEXURE B shows a strip chart of the route from Colesberg to Port Elizabeth.

Use ANNEXURE B to answer the questions that follow.

4.1.1 Name the national roads that Rammone will use to travel to Port Elizabeth. (2)

4.1.2 Which national park is furthest from the N10? (2)

4.1.3 Rammone met a friend in Paterson who had to travel 61 km via the R336 from his hometown.

Name the friend's hometown. (2)

4.1.4 Calculate the travel distance between the TWO national parks. (3)

4.2 Rammone visited Port Elizabeth to check on the progress made on the house being built for his parents.

ANNEXURE C shows the floor plan of the house.

Use ANNEXURE C to answer the questions that follow.

4.2.1 Give (in mm) the external length of the wall that makes the area of Bedroom 1 larger than Bedroom 2. (2)

4.2.2 Determine (in m) the total external length of the western wall of the house. (2)

4.2.3 Name the room(s) that has more than ONE entrance. (2)

4.2.4 Identify the room that has the same floor area as the living room. (2)

4.2.5 Which bathroom fixture is NOT shown on the floor plan? (2)

[19]

NOV 2018

QUESTION 4

4.1 A parkrun is a weekly 5 km run. A group of runners drove from Upington to Springbok to take part in the weekly parkrun in Springbok.

ANNEXURE C shows a route map from Upington to Springbok.

Use ANNEXURE C to answer the questions that follow.

4.1.1 Give the general direction from Upington to Springbok. (2)

4.1.2 Write down the name of the national park close to Kamieskroon. (2)

4.1.3 Name TWO towns the runners will pass through on their way to Springbok, following the N14. (3)

4.1.4 Identify the type of scale used on the map. (2)

4.1.5 Use the given scale to determine the actual distance (to the nearest km) between Upington and Springbok. (4)

4.2 On arrival in Springbok the runners must first pick up Joe, a fellow runner, before heading to the parkrun (**B**).

ANNEXURE C shows a street map indicating the route from entering Springbok (**A**) to the parkrun (**B**).

Use ANNEXURE C to answer the questions that follow.

4.2.1 Name the road by which they will enter Springbok. (2)

4.2.2 Joe gives them the following directions to his home:

- Enter Springbok from Upington.
- Turn right into Uitspan Street.
- Turn left into Lukhof Street.
- Turn left into the first street.

Use the directions above to determine in which street Joe lives. (2)

4.2.3 Name of the lodge near the parkrun. (2)

4.2.4 The distance from Joe's house to the parkrun is 2,34 km. They travel at an average speed of 40 km/h.

Determine how long it will take them (in minutes) to get from Joe's house to the parkrun.

You may use the following formula:

$$\textbf{Time} = \frac{\textbf{distance}}{\textbf{speed}}$$

(3)

4.2.5 29 of the 42 athletes who participated in the parkrun were female.

Determine the probability of randomly selecting a male athlete from this group.

(2)

[24]

NOV 2019

QUESTION 4

4.1 ANNEXURE C shows a map of the Mountain Zebra National Park.

Use ANNEXURE C to answer the questions that follow.

4.1.1 Name ALL the activities offered in the circle, **Z**. (4)

4.1.2 Identify the 4 x 4 route situated north-east of the Juries Dam. (2)

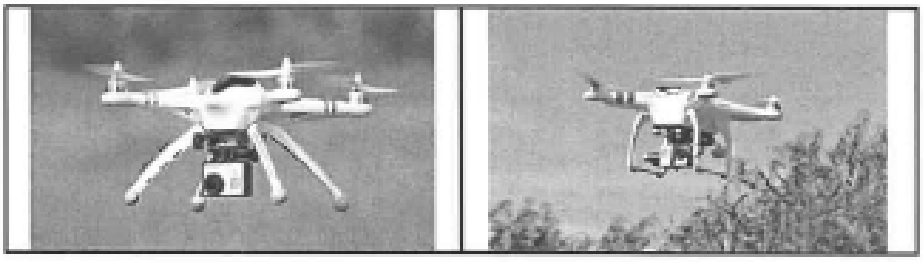
4.1.3 Determine the number of restaurants found on the map. (2)

4.1.4 Identify the type of scale shown on the map. (2)

4.1.5 The measured map distance between point **A** and point **B** is 10 cm. Use the given scale to calculate the actual distance (to the nearest km) between point **A** and point **B** . (4)

4.1.6 Field guides sometimes use drones (remote controlled aircrafts) to monitor the movement of animals in parks.

PICTURES OF DRONES



The drone travels at an average speed of 30 km/h. For a particular task, the drone flew a distance of 10 km from the guide and thereafter returned to the guide.
Calculate the total time (in minutes) for this particular task.

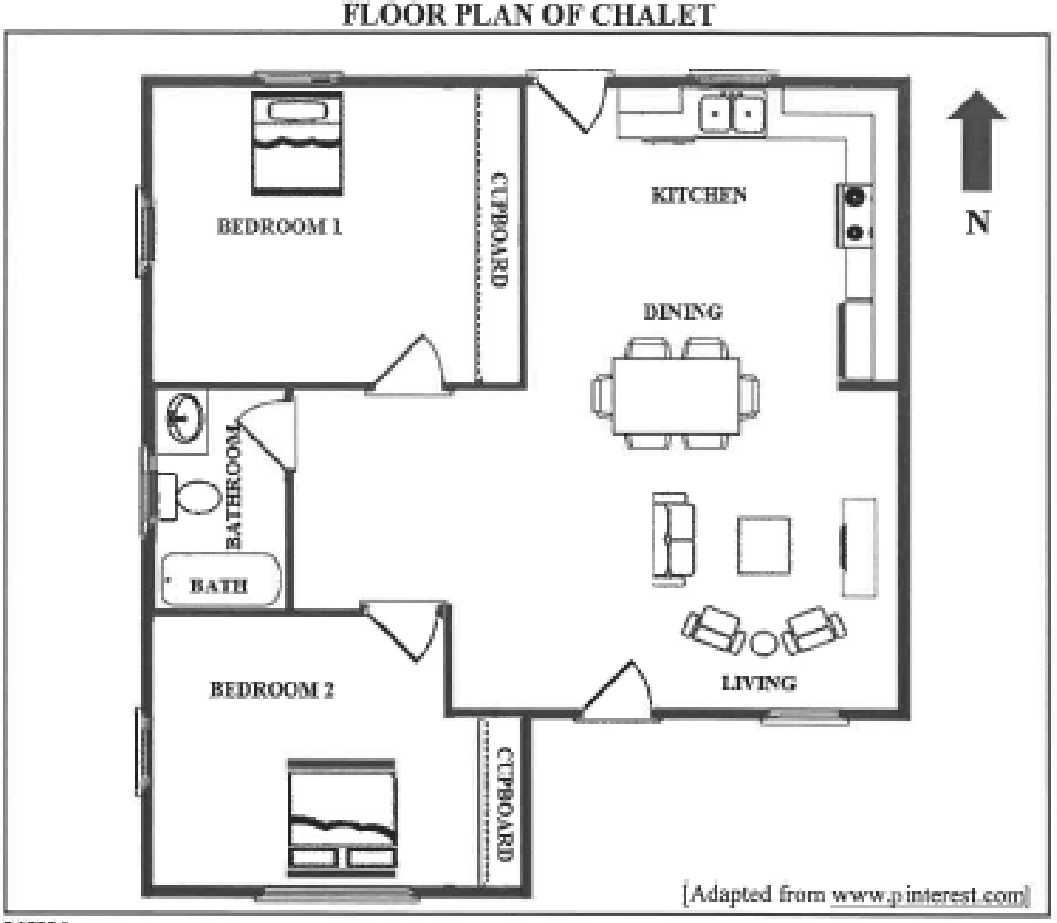
You may use the following formula:

$$\textbf{Time} = \frac{\textbf{distance}}{\textbf{speed}}$$

(4)

4.2 The floor plan of a chalet close to the Mountain Zebra National Park is shown below.

FLOOR PLAN OF CHALET



KEY:

ITEM	SYMBOL
Window	
Door	

ITEM	SYMBOL
Cupboard door	

Use the floor plan above to answer the questions that follow.

4.2.1 State the number of doors on the floor plan with right-hand side openings. (2)

4.2.2 Write down the name(s) of the rooms that will face the afternoon sun. (2)

4.2.3 Determine the probability of walking into a bedroom in this chalet with two separate beds in one bedroom. (2)

[24]

DATA HANDLING

NOV 2017

QUESTION 5

5.1 ANNEXURE C shows data relating to the 2015/2016 admissions for full-time NSC candidates for the 11 most common subjects.

All full-time candidates have to take at least seven subjects. Mathematics or Mathematical Literacy is compulsory.

Study the information in ANNEXURE C to answer the questions that follow.

5.1.1 Name another type of graphical representation that could be used to represent this data. (2)

5.1.2 Determine the maximum number of candidates who were admitted as full-time candidates in 2016. (2)

5.1.3 Determine the probability of randomly selecting a candidate, taking Mathematics or Mathematical Literacy, who was admitted in 2015. (2)

5.1.4 List ALL the subjects that showed a decrease in the number of full-time candidates admitted from 2015 to 2016. (3)

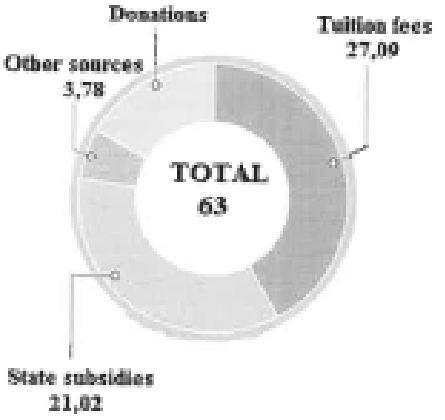
5.1.5 Name the subject that showed the greatest increase in the number of candidates admitted in 2016. (2)

5.1.6 Explain why this is called *categorical data*. (2)

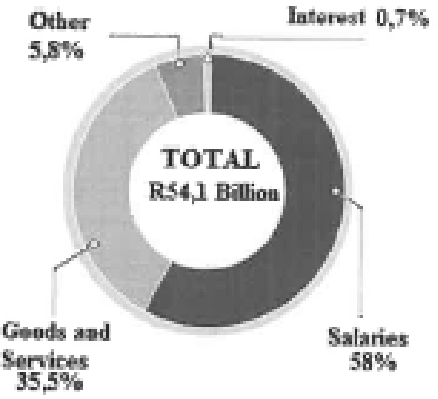
5.1.7 Identify which subject in 2016 had more than two hundred twenty three thousand, but less than two hundred seventy four thousand candidates. (2)

5.2 The two pie charts, **A** and **B**, below represent the income and expenditure of all South African tertiary institutions.

PIE CHART A
INCOME (IN BILLION RAND)



PIE CHART B
TYPES OF EXPENDITURE



[Source: www.grafika24.co.za]

5.2.1 Give ONE example of an 'Other' type of expenditure applicable to tertiary institutions. (2)

5.2.2 What percentage of income comes from donations? (3)

5.2.3 Calculate the amount (in rand) of interest paid by tertiary institutions. (3)

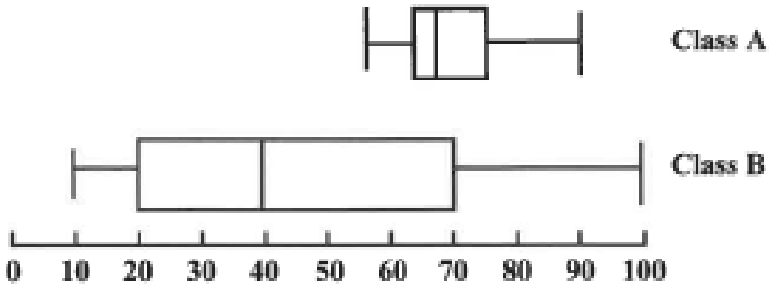
5.2.4 Determine the difference (in millions of rand) between the income and expenditure of the tertiary institutions. (3)

[26]

FEB 2018

QUESTION 5

5.1 The two box-and-whisker plots below represent the percentage marks achieved by two Grade 12 classes. Each class consists of 26 learners.



The percentage marks for **Class A**, arranged in order, are given below:

F	58	60	62	62	63	65	65	66
66	66	66	67	69	70	71	73	73
75	75	75	**H**	80	83	85	90	

[SASAMS database]

NOTE:

- **F** is the lowest percentage mark
- **H** is a percentage mark between 75 and 80

5.1.1 Which ONE of the following terms best describes the data above:

- Categorical
- Numerical
- Qualitative (2)

5.1.2 Determine the percentage of data values that lies between the upper and lower quartiles. (2)

5.1.3 The range of Class A is 34.

Calculate the value of **F**. (3)

5.1.4 Calculate the median percentage mark for Class A. (2)

5.1.5 Determine the inter quartile range for Class B. (3)

5.1.6 Give the modal percentage mark for Class A. (2)

5.1.7 Calculate the missing value **H** if the mean percentage mark for Class A is 70%. (3)

5.1.8 Determine (as a simplified common fraction) the probability of randomly selecting a learner from Class A who obtained a percentage mark different from any other learner in the class. (3)

5.2 A survey on the distribution of literacy levels among adults aged 35 to 64 was conducted in all provinces in South Africa.

TABLE 5 below shows the 2016 adult (aged 35 to 64) literacy levels per province.

TABLE 5: 2016 ADULT (AGED 35 TO 64) LITERACY LEVELS PER PROVINCE

PROVINCE	LITERACY LEVELS				TOTAL
	NON-LITERATE		LITERATE		
	Number	%	Number	%	
Western Cape	288 918	14,1	1 762 494	85,9	**2 051 412**
Eastern Cape	393 954	26,0	1 120 567	74,0	**1 514 521**
Northern Cape	94 552	27,9	244 282	72,1	**338 834**
Free State	192 933	24,1	609 029	75,9	**801 962**
KwaZulu-Natal	650 033	24,9	1 956 497	75,1	**2 606 530**
North West	299 994	28,3	760 068	71,7	**1 060 062**
Gauteng	575 371	12,5	4 013 463	87,5	**4 588 834**
Mpumalanga	312 273	28,5	784 347	71,5	**1 096 620**
Limpopo	372 090	28,7	922 171	71,3	**1 294 261**
TOTAL	**Q**		**12 172 918**		**15 353 036**

[Adapted from Community Survey, 2016]

NOTE: Some data has been omitted.

Use TABLE 5 above to answer the questions that follow.

5.2.1 Calculate the missing value **Q**. (2)

5.2.2 Determine the percentage of literate adults in South Africa. (3)

5.2.3 Express (as a unit ratio) the number of non-literate adults to the number of literate adults in KwaZulu-Natal. (3)

5.2.4 Arrange the number of literate adults per province in ascending order. (2)

5.2.5 Determine the province with the smallest difference between the number of literate and the number of non-literate adults. (2)
[32]

NOV 2018

QUESTION 5

5.1 During certain seasons in South Africa, the wind can lead to fires that cause large damages. The fire losses in South Africa for the period 2010 to 2015 are shown in TABLE 4 below.

TABLE 4: LOSSES CAUSED BY FIRE FOR THE PERIOD 2010 TO 2015

	2010	2011	2012	2013	2014	2015
Total loss in rand (in millions)	1 323	2 085,6	3 162	2 158	1 847	2 732
GNI (in thousand millions)	2 608,5	2 897,6	3 066	3 441	3 694	3 913
Fire loss as a % of GNI	0,05%	0,07%	0,103%	A	0,05%	0,07%
Number of fires (in thousands)	26,5	37,7	41,4	42,3	46,1	45,7
Population (rounded) (in million)	49,9	51,7	52,2	52,9	53,5	54,3

[Adapted from: http://www.fpasa.co.za]

NOTE: GNI – gross national income

Study TABLE 4 above to answer the questions that follow.

5.1.1 Write down the total loss, in rand, caused by fire during 2011. (2)

5.1.2 Calculate the mean total loss, in rand, caused by fires for the period 2010 to 2015. (3)

5.1.3 Identify the maximum number of fires for the period 2010 to 2015. (2)

5.1.4 Calculate the value of **A**, the fire loss as a percentage of the GNI for 2013. Round your answer to TWO decimal places. (4)

5.2 TABLE 5 below shows the labour force characteristics of South Africa for the fourth quarter of 2017.

TABLE 5: LABOUR FORCE CHARACTERISTICS IN SOUTH AFRICA IN 2017 (IN THOUSANDS)

	TOTAL LABOUR FORCE	TOTAL NEA	ECONOMICALLY ACTIVE		
			TOTAL	Employed	Unemployed
Eastern Cape	**4 216**	2 071	2 145	1 391	754
Free State	**1 893**	697	1 196	806	390
Gauteng	**10 059**	3 016	7 043	4 991	2 052
KwaZulu-Natal	**6 948**	3 638	3 310	2 513	797
Limpopo	**3 704**	1 941	1 763	1 417	346
Mpumalanga	**2 878**	1 130	1 748	**X**	506
Northern Cape	**790**	349	441	321	120
North West	**2 534**	1 221	1 313	999	314
Western Cape	**4 507**	1 412	3 095	2 492	603
South Africa	**37 529**	**15 475**	**22 054**	**16 172**	**5 882**

[Adapted from: www.statssa.co.za]

NOTE: NEA – not economically active

Use TABLE 5 above to answer the questions that follow.

5.2.1 Explain the meaning of the term *unemployed* within the context of the table above. (2)

5.2.2 Determine the value of **X**, the number of people employed in Mpumalanga. (2)

5.2.3 Name ONE data collection instrument that could be used to collect the data above. (2)

5.2.4 Calculate the percentage of people in the Western Cape who are NOT economically active (NEA). (3)

5.2.5 Write down the ratio of employed people to unemployed people in South Africa in the form … : 1. (2)

5.2.6 Determine the probability (as a decimal) of randomly selecting a person in the Free State who is NOT economically active (NEA). (3)

5.2.7 The graph on the ANSWER SHEET represents the number of economically active people, as well as those who are not economically active (NEA) in South Africa. The bars for ALL economically active persons and only the bar for the people in the Eastern Cape who are NOT economically active (NEA) are drawn.

Use the ANSWER SHEET to draw the graphs for the rest of the provinces. (6)

5.2.8 Determine the probability, as a simplified fraction, of selecting a province where fewer than 350 000 people are unemployed. (4)

[35]

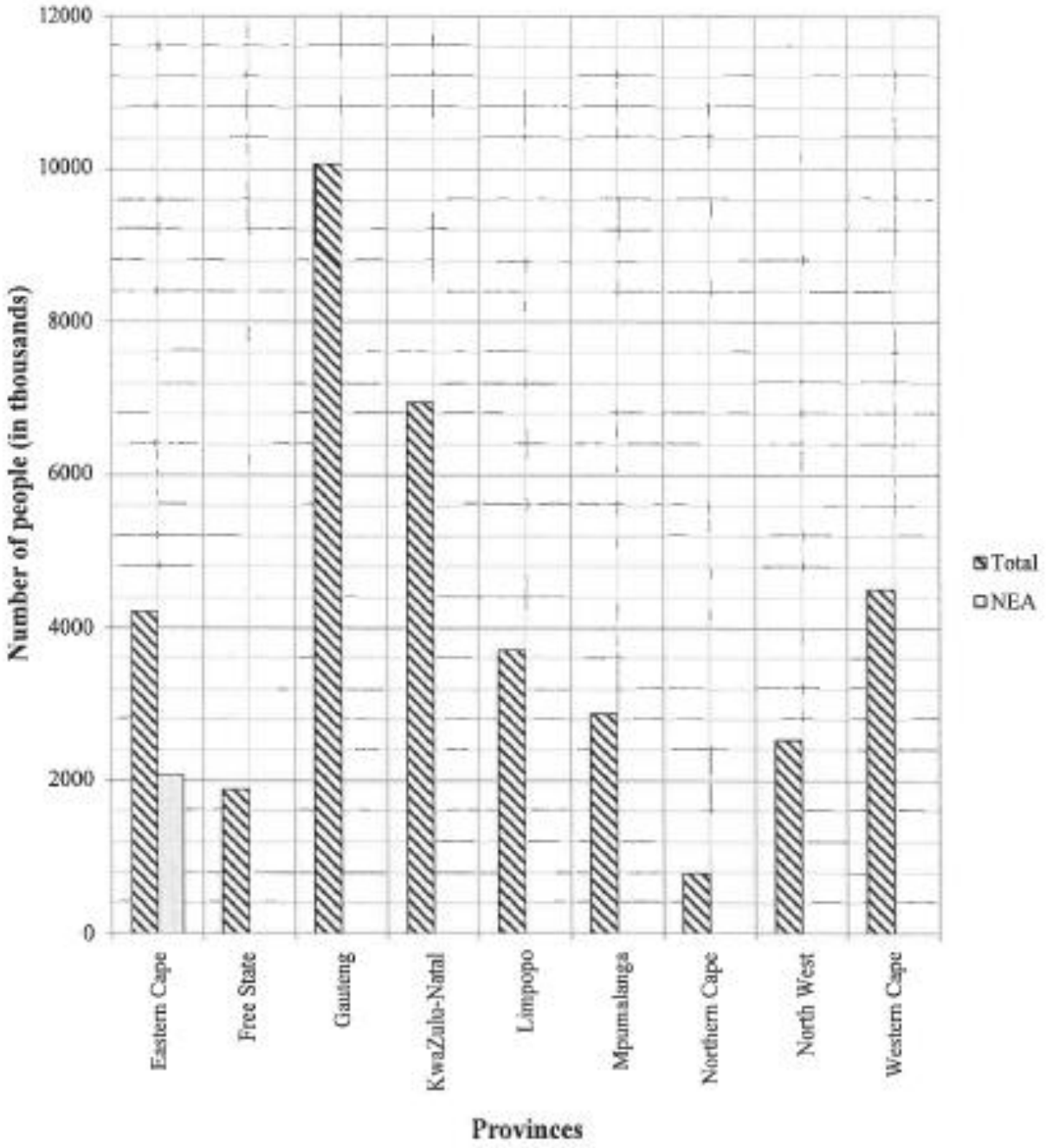
ANSWER SHEET

QUESTION 5.2.7

CENTRE NUMBER:

EXAMINATION NUMBER:

NUMBER OF ECONOMICALLY ACTIVE AND NOT ECONOMICALLY ACTIVE PEOPLE IN SOUTH AFRICA

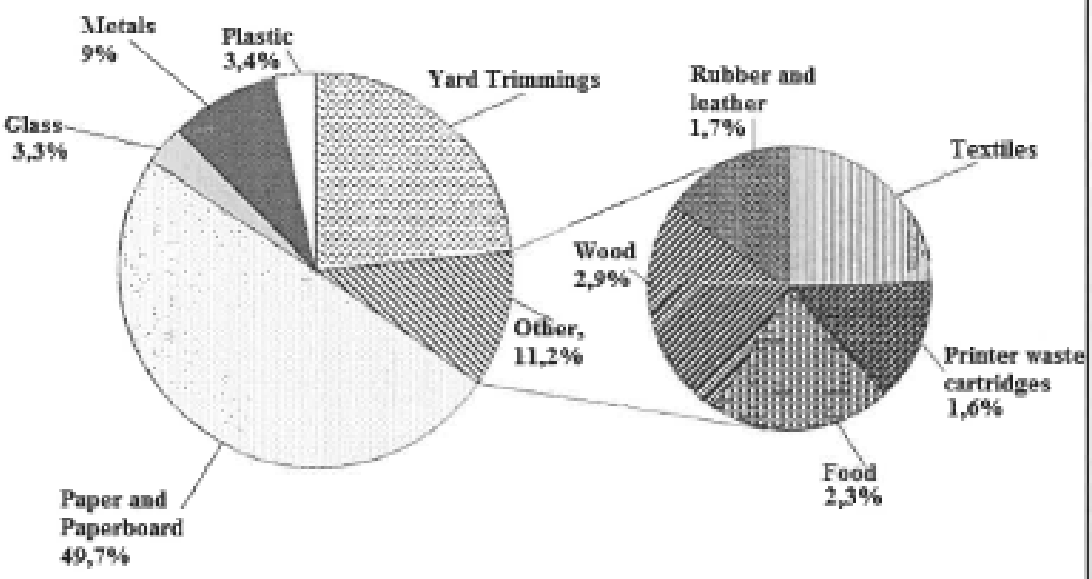


NOV 2019

QUESTION 5

5.1 The pie chart below shows the total recycling and composting of material for 2015.

TOTAL RECYCLING AND COMPOSTING BY TYPES OF MATERIAL FOR 2015
(91,16 million tons)



Glossary: Composting is the changing of waste material into fertiliser.

Study the pie charts above and answer the questions that follow.

5.1.1 Write down ONE possible data collection method that was used to gather the above data. (2)

5.1.2 Calculate the percentage allocated for yard trimmings. (3)

5.1.3 Determine the percentage allocated for textiles. (2)

5.1.4 Calculate (in tons) the total amount of plastic recycled in 2015. (3)

5.1.5 Give ONE possible example of a product that could be recycled under the metals category. (2)

5.1.6 State another type of graph that could be used to represent the data above. (2)

5.1.7 Determine, as a decimal, the probability of randomly selecting a material in the 'other' category that is NOT textiles. (4)

5.2 TABLE 5 below shows the number of seats of the 26th South African Parliament that was occupied by the different political parties. Included in the table below is the number of permanent and special delegates making up the National Council of Provinces (NCOP) since the 7 May 2014 elections.

TABLE 5: NUMBER OF SEATS IN PARLIAMENT FOR THE DIFFERENT POLITICAL PARTIES PER PROVINCE

PARTY	DELEGATE TYPE	PROVINCE									TOTAL
		EC	FS	GP	KZN	LP	MP	NW	NC	WC	
ANC	Permanent	4	4	3	4	4	4	4	4	2	33
	Special	3	3	2	3	4	4	3	3	2	27
DA	Permanent	1	1	2	1	1	1	1	1	4	13
	Special	1	1	2					1	2	7
EFF	Permanent		1	1		1	1	1	1		6
	Special							1			1
IFP	Permanent				1						1
NFP	Special				1						1
UDM	Permanent	1									1
											90

[Source:www.wikipedia.org]

NOTE:

African National Congress	ANC	Inkatha Freedom Party	IFP
Democratic Alliance	DA	National Freedom Party	NFP
Economic Freedom Fighters	EFF	United Democratic Movement	UDM

Use TABLE 5 to answer the questions that follow.

5.2.1 State the number of KZN delegates in the NCOP. (2)

5.2.2 Write down (in simplified form) the ratio of the total number of permanent seats to special seats for the ANC in the NCOP. (3)

5.2.3 Identify ONE party that has NO permanent seat in the NCOP. (2)

5.2.4 An incomplete bar graph showing the different types of delegates representing each party in the NCOP, is drawn on the ANSWER SHEET.

On the same ANSWER SHEET complete the bar graph for the Democratic Alliance (DA). (3)
[28]

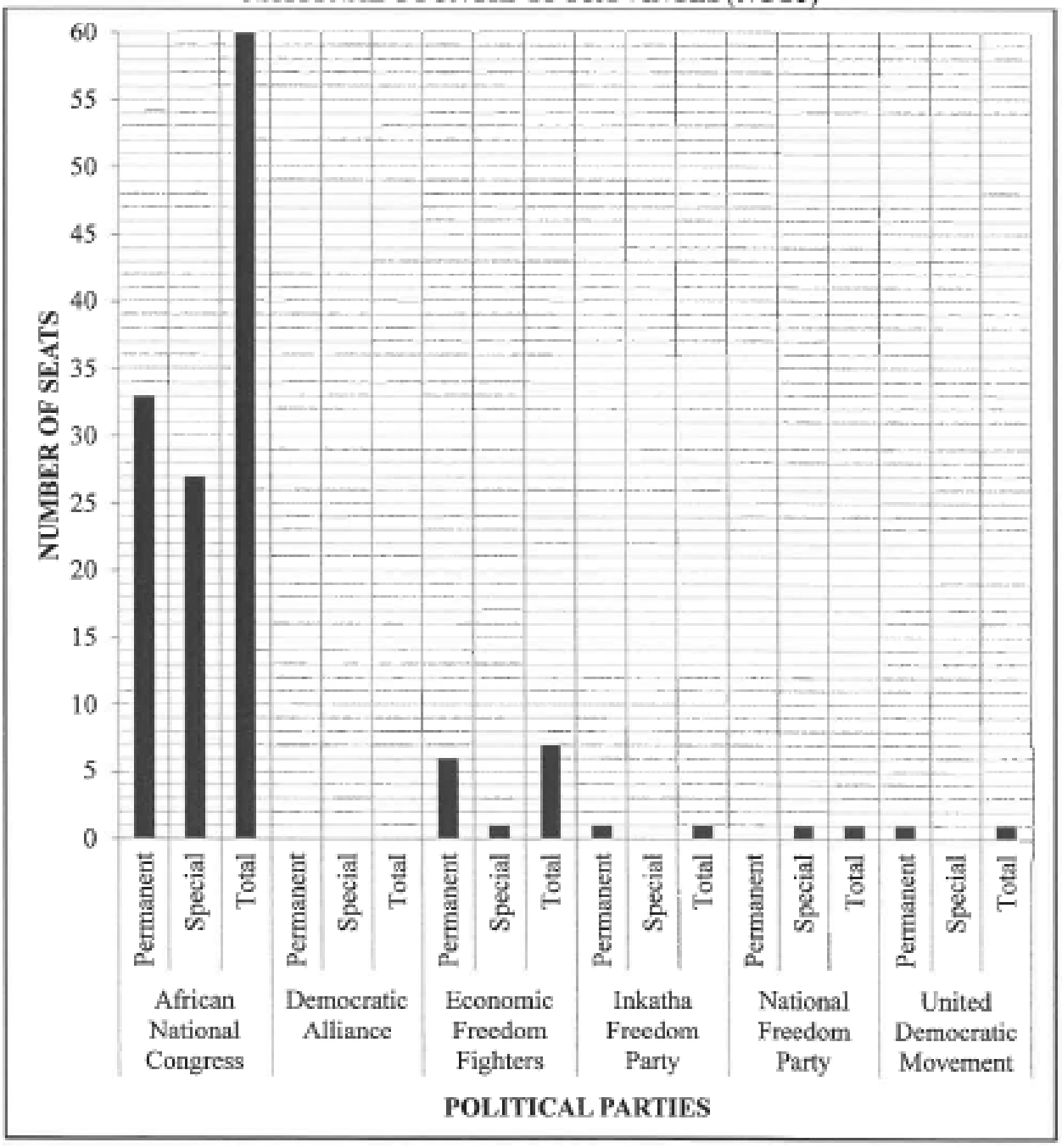
ANSWER SHEET

QUESTION 5.2.4

CENTRE NUMBER:

EXAMINATION NUMBER:

NUMBER OF SEATS FOR DIFFERENT PARTIES IN THE NATIONAL COUNCIL OF PROVINCES (NCOP)



ADDENDA: 2017 – 2019 MATHEMATICAL LITERACY P1

NOV 2017

ANNEXURE A

QUESTION 2.2

MUNICIPAL ACCOUNT STATEMENT

Fortune SJ 33 Wood Street Smelderado Estate 1811	**Date**	2017/01/02
	Statement for	January 2017

Account Number 547 892 30495 8233

Stand Size	Number of Dwellings	Valuation Date	Portion	Municipal Valuation	Region
463 m^2	1	2013/07/01	C	Market value R690 000	Q

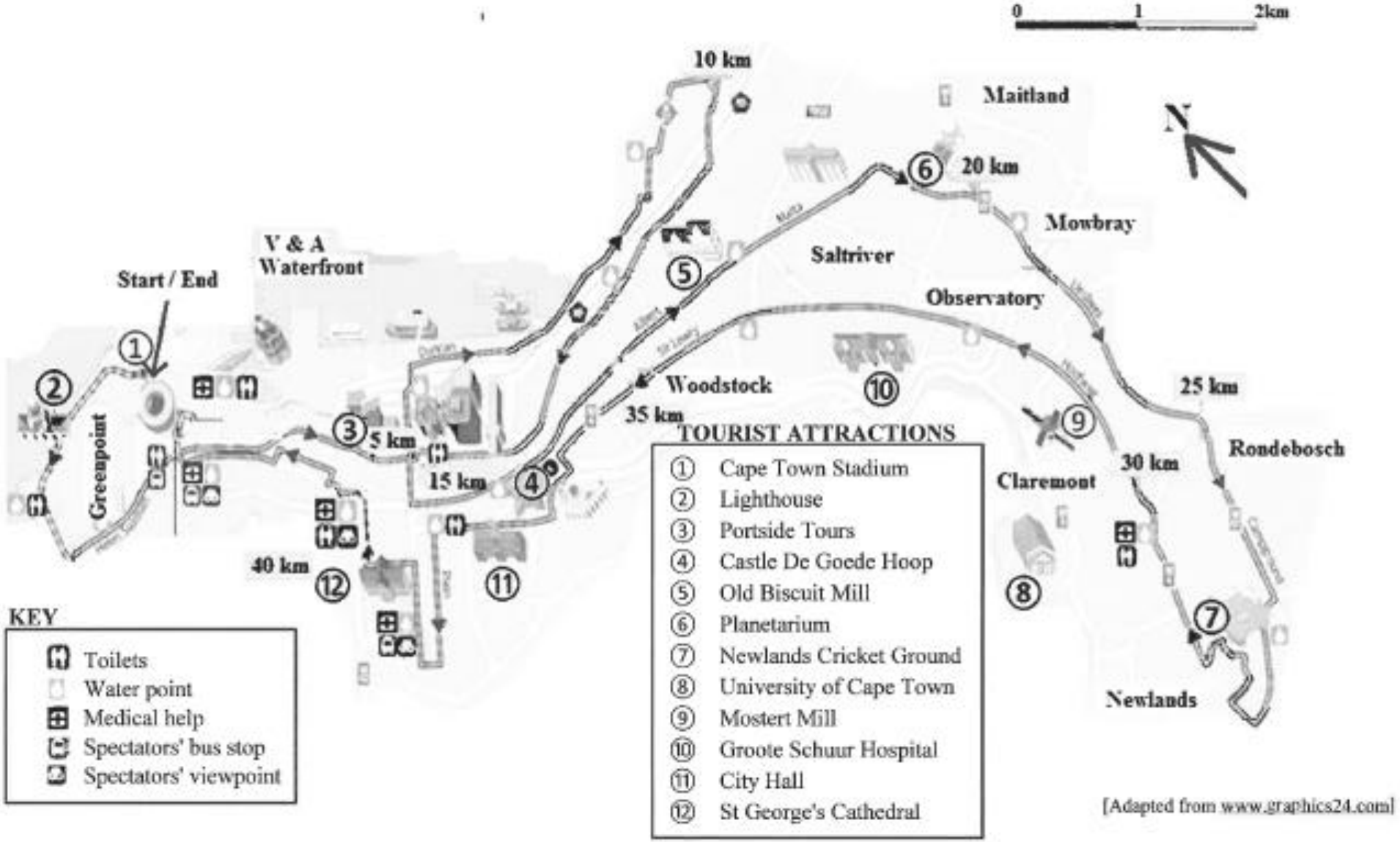
Water and Sewerage		
	AMOUNT	**SUBTOTAL**
Reading Period (23 days): 2016/11/27 to …		
Meter readings and consumption: Start reading 467,00 and end reading 479,00 Consumption = 12,00 kℓ Daily average consumption 0,522 kℓ		
Charges for 12,00 kℓ are based on a sliding scale. Step 1 4,534 kℓ @ R0,000 Step 2 3,022 kℓ @ R7,140 Step 3 3,778 kℓ @ R12,070 Step 4 0,666 kℓ @ R17,650 Monthly sewerage charge based on stand size 463 m^2 (Billing period 2016/12) VAT: 14,00%	 0,00 21,58 45,60 11,76 298,36 52,82	 430,12
Property Rates		
Category of Property: Property Rates Residential Property rates are based on the market value of the property and are calculated as follows: R690 000,00 × R0,006 916 0 ÷ 12 Less rates on first R200 000,00 of market value VAT: 0%	 **A** −115,27 0,00	 **B**
Refuse Refuse Removal VAT: 14%	 147,00 20,58	 167,58
Current Charges (Incl. VAT)		880,10

Previous Account Outstanding Balance		919,33
Current Charges		880,10
	Total Due	1 799,43
	Due Date	2017/01/25

[Adapted from City of Johannesburg Municipal Account]

ANNEXURE B

QUESTION 4.1 ROUTE MAP SHOWING SUBURBS AND TOURIST ATTRACTIONS FOR THE 42,2 km 2017 CAPE TOWN MARATHON

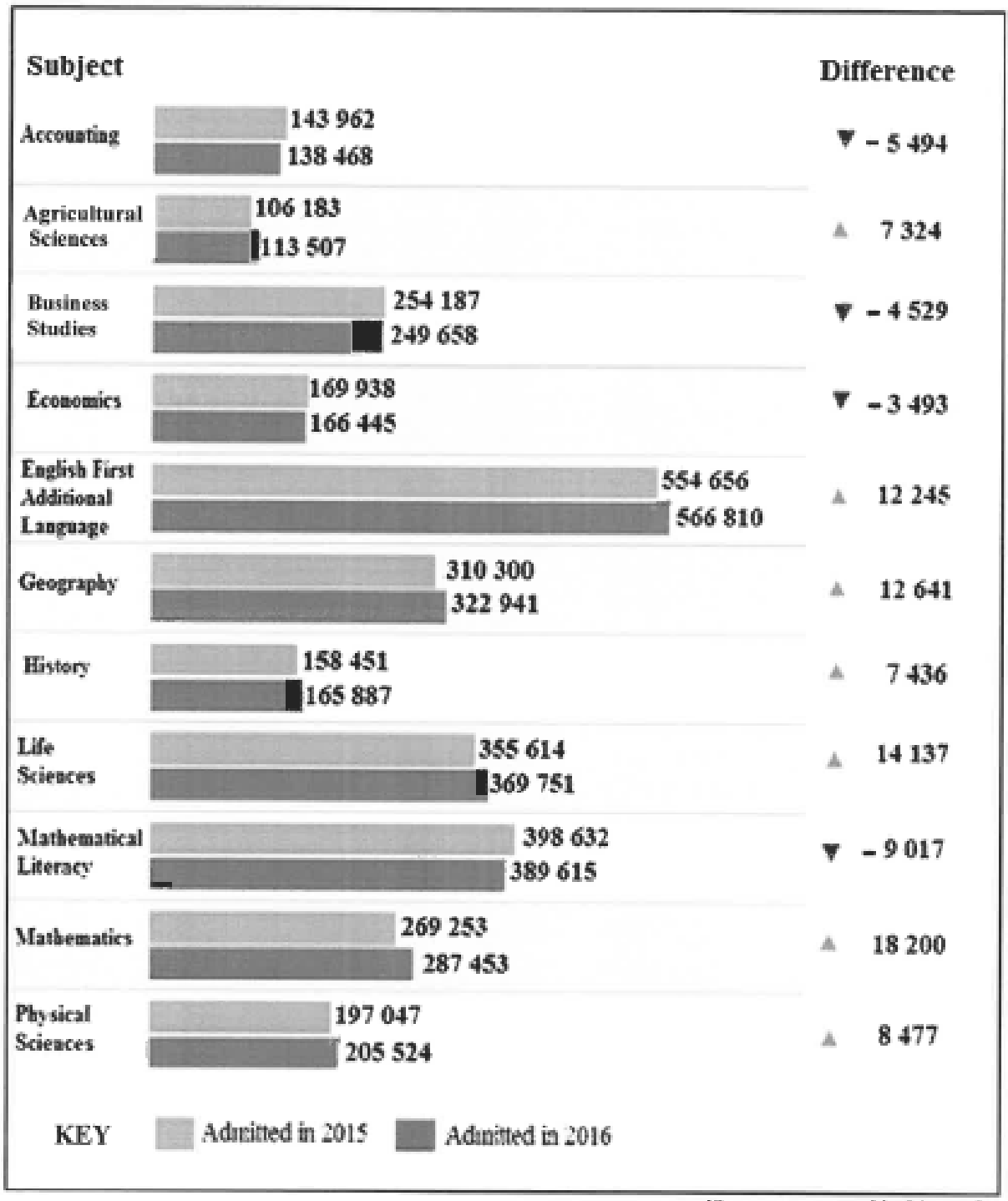


[Adapted from www.graphics24.com]

ANNEXURE C

QUESTION 5

FULL-TIME NSC CANDIDATES' ADMISSION FOR THE 11 MOST COMMON SUBJECTS

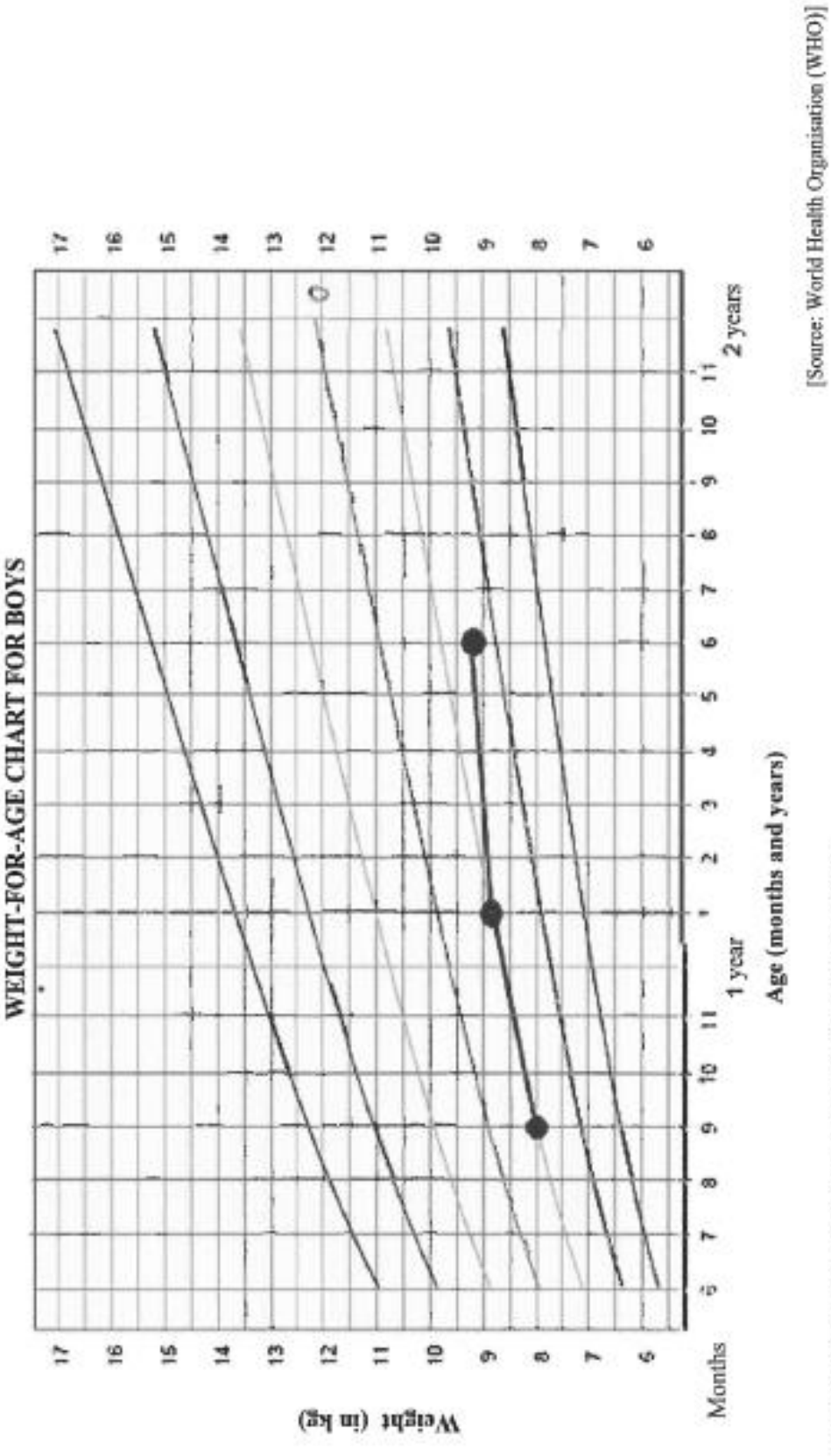


[Source: www.graphics24.co.za]

FEB 2018

ANNEXURE A

QUESTION 3.1



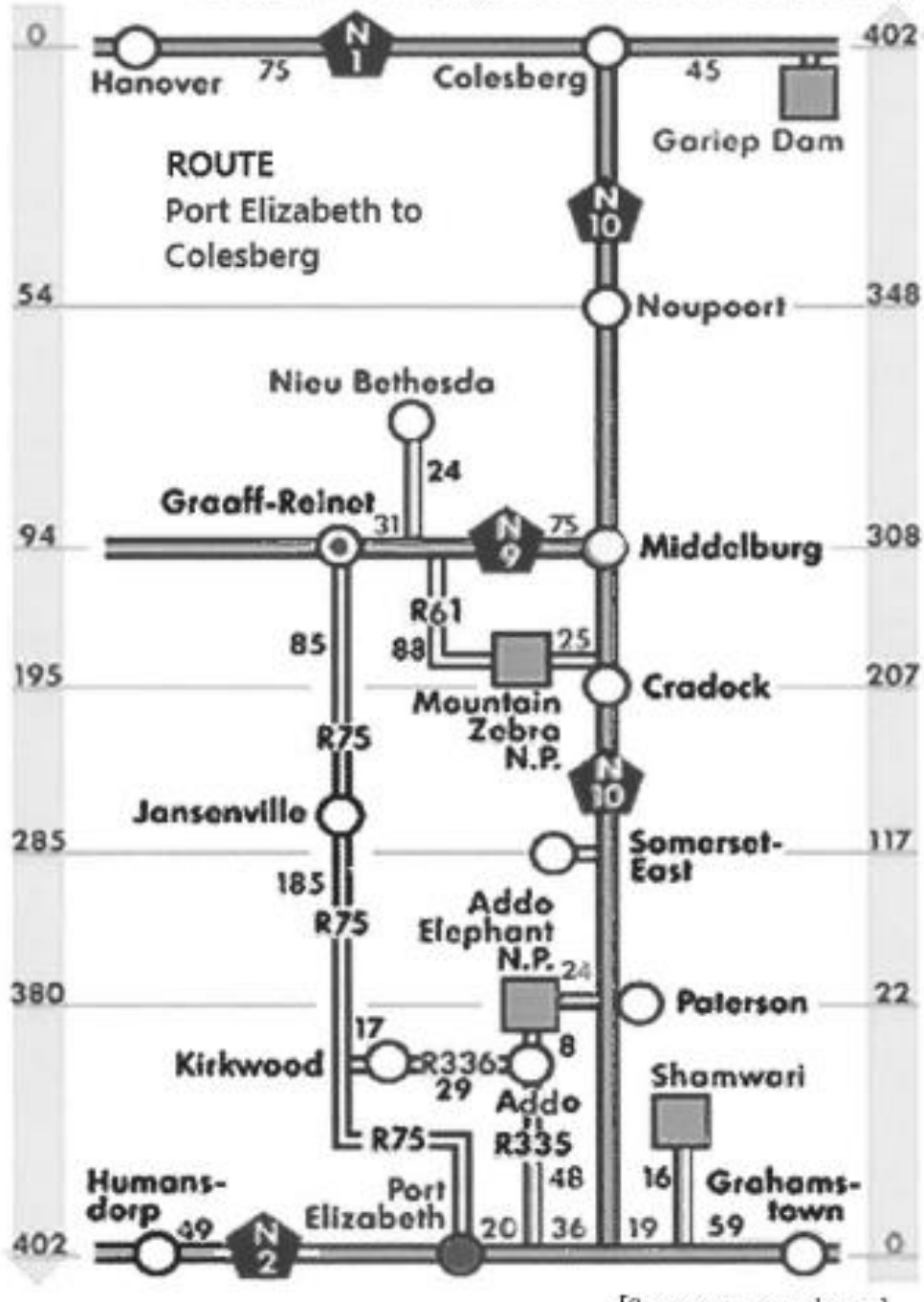
[Source: World Health Organisation (WHO)]

NOTE: The dots on the solid black line shows the three visits.

ANNEXURE B

QUESTION 4.1

STRIP CHART OF THE ROUTE FROM COLESBURG TO PORT ELIZABETH (DISTANCES IN KILOMETRES)



[Source: www.google.com]

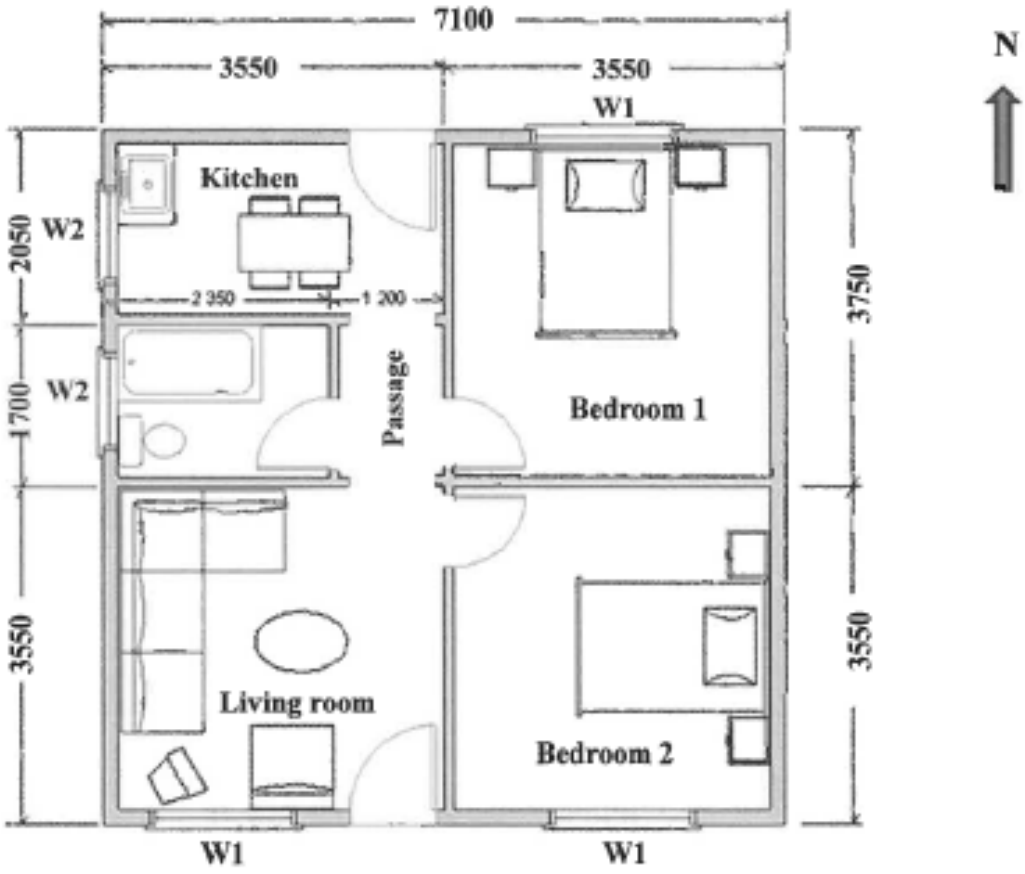
KEY

N1	National road	N.P.	National Park
R75	Regional road		

ANNEXURE C

QUESTION 4.2

FLOOR PLAN OF A HOUSE IN PORT ELIZABETH



[Source: http://www.saplans.co.zap1003]

NOTE: All measurements are in **millimetres**.

KEY:	ITEMS	DESCRIPTION
	W1 =	Window opening
	W2 =	Window opening
		Opening requiring solid door

NOV 2018

ANNEXURE A

QUESTION 2.1

STUDENT FEES STATEMENT FOR TAMRYN ABRAHAMS FOR SEPTEMBER 2017

UNIVERSITY OF CAPE TOWN

FEES OFFICE
UCT
PRIVATE BAG X3
RONDEBOSCH
7701

+27 21 650-1704
+27 21 650-4768
Email: fnd-feesnq@uct.ac.za
Web: http://www.uct.ac.za

Fees and Cashiers Office Hours/Location:
Monday - Friday 09h00 - 15h30
Thursday - 09h30 - 15h30
Level 3, Kramer Law Building, Middle Campus

STUDENT FEES STATEMENT

Page 1 of 1

Miss Tamryn Abrahams **24 Hoop Street** **Extension 12** **Upington** **8801**	**Statement of account as on**	**06/10/17**
	e-mail address	**John.Abrms@gmail.com**
	Invoice ID	**UCT STAT NO. 0003399891**
	Student name	**Tamryn Jessica Abrahams**
	Student number	**ABRTAM002**
	Account number	**1567858**
	Anticipated funding	**R0,00**

Date	Details*	Debit	Credit	Balance
	Balance brought forward	14 819,50		14 819,50
31/12/16	Interest on overdue fees	148,20		14 967,70
16/01/17	No. 5 Bank Acc direct deposit Ref 950230173		–8 650,00	**6 317,70**
06/03/17	APG 2000F History & Theory of Arch	3 030,00		
06/03/17	APG 2000F History & Theory of Arch	3 030,00		
06/03/17	APG 2003S Theory Structures 3	2 280,00		
06/03/17	APG 2009F Theory Structures 4	2 280,00		
06/03/17	APG 2011S Technology 2	9 580,00		
06/03/17	APG 2038W Environ & Services II	4 530,00		
06/03/17	APG 2039W Design & Theory Studio II	29 460,00		
23/03/17	Late payment penalty	2 087,00		62 594,70
16/05/17	No. 5 Bank Acc direct deposit Ref 950241526		–23 000,00	39 594,70
31/08/17	Interest on overdue fees	395,95		
30/09/17	Interest on overdue fees	395,95		
E. & O.E	**Due to us**	☞		**R40 386,60**

[Adapted from www.srvwinpsw006.wf.uct.ac.za]

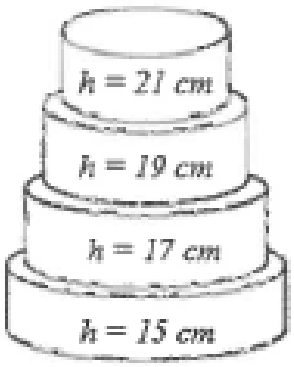
Details*: Balances/interest/course code/course name

ANNEXURE B

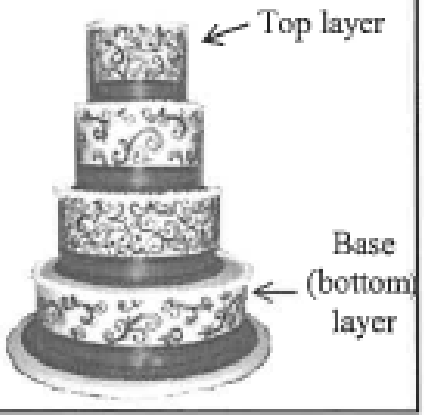
QUESTION 3.1

FOUR-LAYER RED VELVET WEDDING CAKES

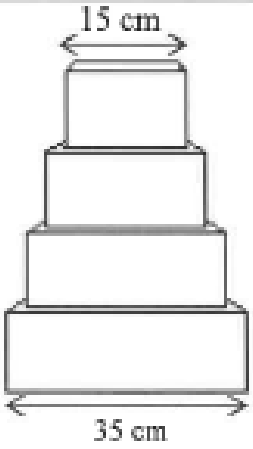
AMY'S FOUR-LAYER CYLINDRICAL RED VELVET WEDDING CAKE



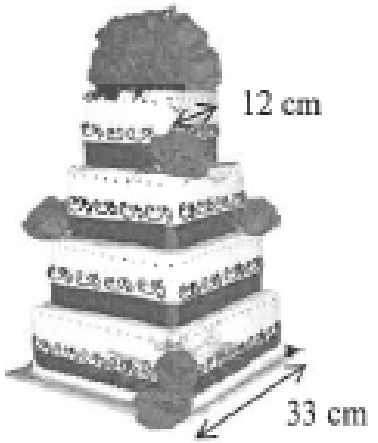
height = h



AMY'S FOUR-LAYER RECTANGULAR RED VELVET WEDDING CAKE



Length of top layer = 15 cm
Length of bottom layer = 35 cm



Width of top layer = 12 cm
Width of bottom layer = 33 cm

[Adapted from www.pinterest.com]

ANNEXURE C

QUESTION 4

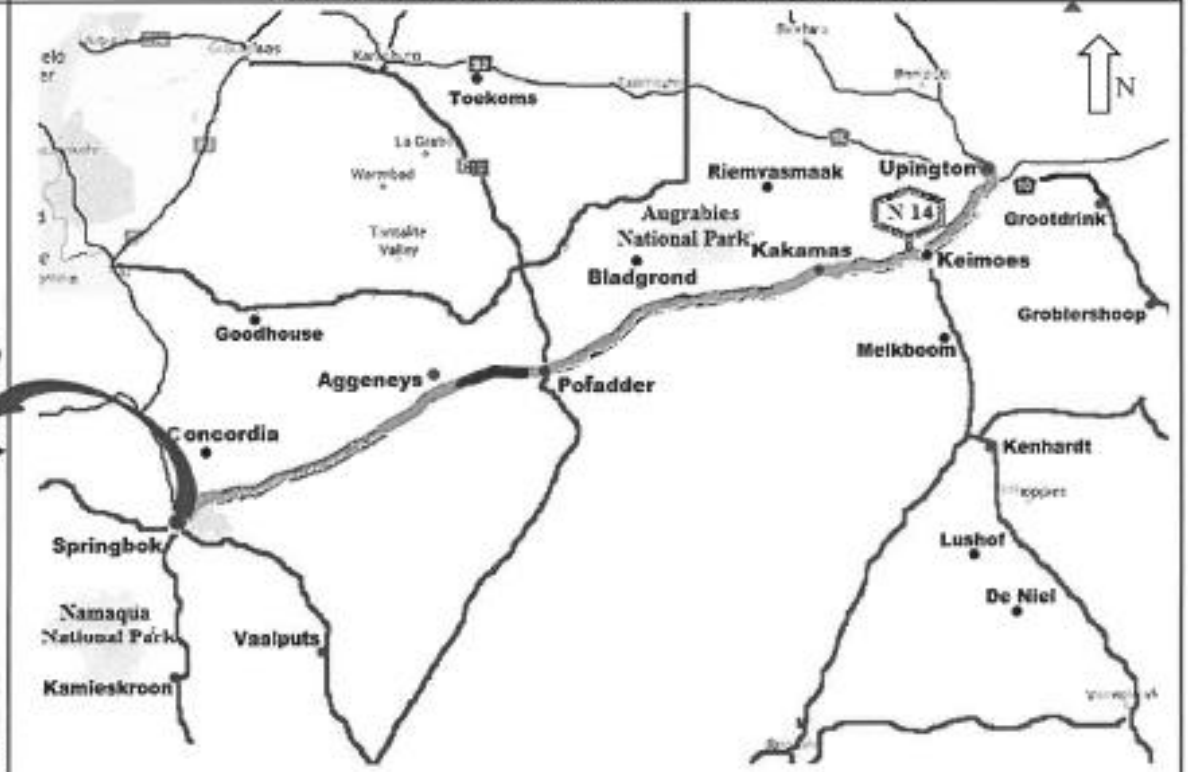
PARKRUN SOUTH AFRICA

STREET MAP OF SPRINGBOK

Key: → Debs-Lodge

[Adapted from http://www.parkrun.co.za]

ROUTE MAP FROM UPINGTON TO SPRINGBOK



Scale 1 : 3 007 874

[Adapted from http://www.google maps.com]

NOV 2019

ANNEXURE A

QUESTION 2.1

EXTRACT FROM MR DANIELS' MONTHLY MUNICIPAL STATEMENT

Mr KJ Daniels **14 Sirkoon Street** **Kruger Park** **2738**	Date: Statement for:	2019/03/12 March 2019

STAND SIZE	NUMBER OF DWELLINGS	DATE OF VALUATION	PORTION	MUNICIPAL VALUATION	REGION
463 m^2	1	2018/07/01	R1	Market value R944 630,00	WARD C

ACCOUNT NUMBER: 345 678 8900 60			
		SUBTOTAL (R)	TOTAL AMOUNT (R)
Water and sewer			
Reading period	2019/01/16 to 2019/02/12		
Meter reading	Start: 795 000 End: 807 000		
Water usage	12 kℓ (kilolitres)		
Daily average consumption	0,429 kℓ		
Charges for 12 kℓ are based on a sliding scale for a 28-day period			
Total water charge (excluding VAT)		**B**	
Water demand management levy		22,64	
Monthly sewer charge based on stand size (excluding VAT)		**A**	
VAT: 15%		73,75	

PAYMENT DUE		**XXX**
DUE DATE		**2019/03/27**

STEPPED RESIDENTIAL WATER TARIFF	
KILOLITRES PER CONNECTION PER MONTH	**2018/19 TARIFF (R/kℓ) EXCLUDING 15% VAT**
from 0 to 6	8,28
above 6 to 10	8,79
above 10 to 15	15,00
above 15 to 20	21,83

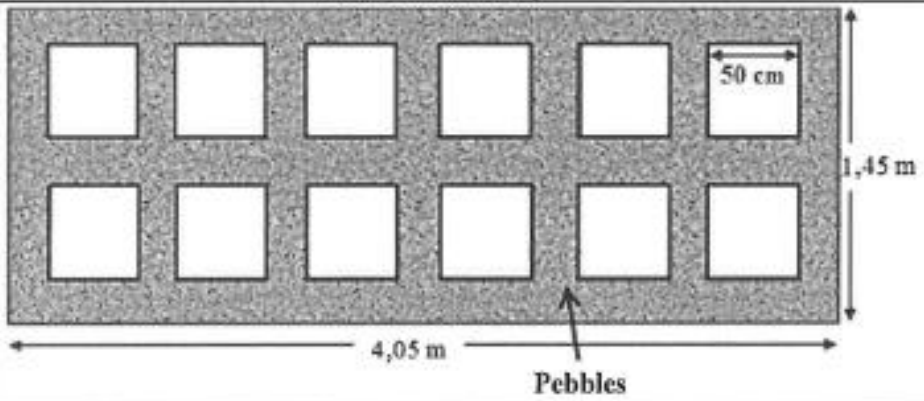
SEWER MONTHLY CHARGE BASED ON STAND SIZE	
STAND SIZE (m^2)	**2018/19 TOTAL CHARGE (IN RAND) EXCLUDING 15% VAT**
Up to and including 300 m^2	194,67
Larger than 300 m^2 to 1 000 m^2	378,95
Larger than 1 000 m^2 to 2 000 m^2	573,29
Larger than 2 000 m^2	836,02

[Adapted from www.joburgwater.co.za and www.jotariffs.co.za]

ANNEXURE B

QUESTION 3.2

THABISO'S LAYOUT PLAN FOR HIS WALKWAY

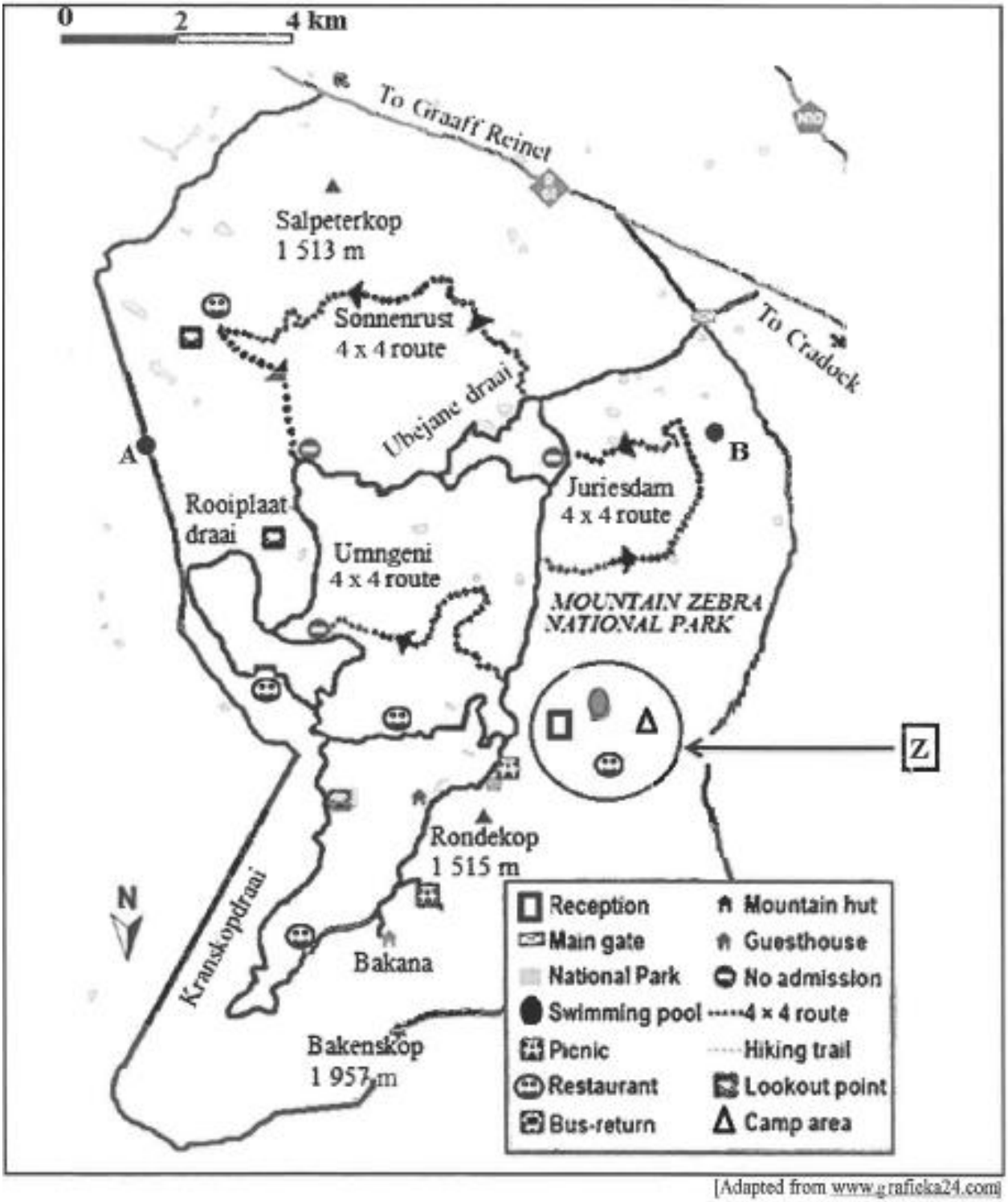
<table>
<tr><th>Thabiso's walkway</th><th>Bag of pebbles</th></tr>
<tr><td> 
</td><td>  </td></tr>
<tr><th>Photo of a typical arrangement</th><th>Dimensions and information</th></tr>
<tr><td>  </td><td>• The dimensions are 4,05 metres by 1,45 metres.
• 1 concrete block = 50 cm x 50 cm.
• The pebbles are sold in 20 kg bags that covers an area of approximately 0,36 m^2.
• He will need 12 blocks, as shown in the sketch above.</td></tr>
</table>

[Source: www.home-dzine.co.za]

ANNEXURE C

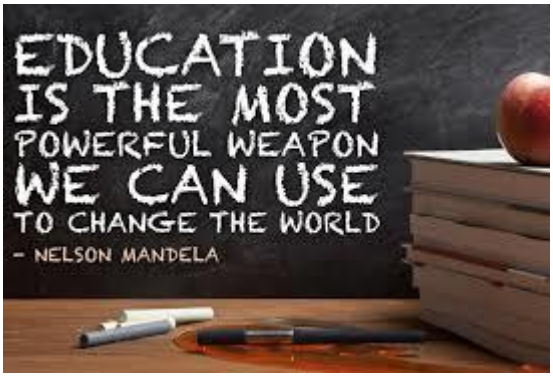
QUESTION 4.1

MAP OF THE MOUNTAIN ZEBRA NATIONAL PARK



[Adapted from www.grafieka24.com]

EC CURRICULUM: FET MATHEMATICS, MATHEMATICAL LITERACY AND TECHNICAL MATHEMATICS



MEMORANDA GROUPED ACCORDING TO QUESTIONS/ TOPICS

QUESTION 1 QUESTIONS
NOV 2017

QUESTION/*VRAAG* 1 [32 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.1	1 / one / *een* ✓✓A **OR/*OF*** A day / *'n dag* ✓✓A **OR/*OF*** One day / *Een dag* ✓✓A	2A for correct day (2)	M L1
1.1.2	Price before saving / *Prys voor besparing* R70 + R250 ✓M = R320 ✓A	1M adding correct values 1A simplification (2)	F L1
1.1.3	Ariel ✓✓A	2A product (2)	F L1
1.1.4	✓MA 750 m ℓ ÷ 1 000 = 0,75 ℓ ✓A **OR/*OF*** ✓MA 750 m ℓ × 0,001 = 0,75 ℓ ✓A	1MA for dividing by 1 000 1A simplification only if division **OR/*OF*** 1MA for multiplying by 0,001 1A simplification only if multiplied (2)	M L1
1.1.5	Price / *Prys* = R11 × 3 ✓MA = R33,00 ✓CA	1MA multiplying correct values 1CA simplification (only if R7,70× 3) (2)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.6	R11; R15; R18; R22; R30; R43; R44; R45; R65; R250 ✓✓A	2A arranging in correct order If names used max 1 mark (2)	D L1
1.2.1	English = 35 letters **OR** 15 letters ✓✓A *Afrikaans = 37 letters **OF** 17 letters* ✓✓A	2A correct number WC, FS, NC Provinces accept both (2)	M L1
1.2.2	44 ^{0}C ✓✓A	2A correct reading Accept 44 - 45 ^{0}C (2)	M L1
1.2.3	One unit on the drawing represents twenty five units in reality / *Een eenheid op die tekening verteenwoordig vyf en twintig eenhede in werklikheid.* ✓✓A **OR/*OF*** Scale in this context means that the drawing of the T-shirt is 25 times smaller than in reality / *Skaal in hierdie konteks beteken dat die tekening van die T-hemp 25 keer kleiner is as in werklikheid.* ✓✓A **OR/*OF*** On the picture the shirt is 25 times smaller / *Op die foto is die hemp 25 keer kleiner* ✓✓A	2A correct definition Accept no units (2)	MP L1
1.2.4	± 61 mm ✓✓A	2A correct measurement (Accept 59 mm – 64 mm) Correct answer in cm = max 1 mark (2)	M L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.3.1	Two Oceans Marathon / *Twee Oseane-marathon* ✓✓RT	2RT reading from table Accept: Race on 15 April 2017 Race of 56 km Race with an entry fee of R520,00 (2)	M L1
1.3.2	Comrades Marathon / *Comrades-marathon* ✓✓RT	2RT reading from table Accept: Race on 4 June 2017 Race of 89 km Race with an entry fee of R460,00 (2)	M L1
1.3.3	R520,00 – R460,00 ✓RT = R60,00 ✓A	1RT correct values from the table 1A answer (2)	F L1
1.4.1	12 Hours / *12 Ure* ✓✓A **OR/*OF*** Half a day / *Halwe dag* ✓✓A	2A correct time Accept: 12:00 **OR/*OF*** 12 o'clock Max 1 mark (2)	M L1
1.4.2	Discrete / *Diskreet* ✓✓A	2A discrete (2)	D L1
1.4.3	✓RT 17 031 : 13 852 ✓A	1RT correct values from table 1A correct values in correct order Accept answer as unit ratios: 1 : 0,813 1,229 : 1 Accept answer in fraction form **NPR** (2)	D L1
			[32]

FEB 2018

Question 1 [30Marks] AO

Ques	Solution	Explanation	Topic/L
1.1.1	$3\frac{1}{2}$ years ✓✓A **OR** Three and half a years ✓✓A **OR** 3,5 years ✓✓A	2A numerical period **OR** 2A period in words 3 years 6 months (only 1 mark) (2)	M L1
1.1.2	Total Repayment Cost = R1 078,26 × 42 ✓M/A = 45 286,92 ✓CA	1MA multiply term by instalment 1CA Total cost From Q1.1.1. (2)	F L1
1.1.3	✓M Discount = R29 999,00 × 15% = R4 499,85 ✓A	1M calc. discount 1A saving (2)	F L1
1.2.1	AD : CB = 10,9 : 9,45 ✓M = 218 : 189 ✓ CA	1M ratio form 1CA simplified form Accept unit ratio (1: 0,87) OR (1,15 : 1) (2)	MP L1
1.2.2	✓ M/A CD = 125,92m – (57,5 + 10,9 + 9,45) = 48,07m ✓CA	1M/A subtracting all lengths 1CA length (2)	M L1
1.2.3	Radius = $\frac{4,73}{2}$m ✓ M = 2,365 m ✓A	1M dividing by 2 1A simplification NPR (2)	M L1
1.2.4	✓M/A Total Cost = R97,56/m × 57,5m = R5 609,70 ✓CA	1M/A multiply cost by correct distance 1CA simplification (2)	F L1
1.3.1	C ✓✓A	2A city (2)	D L1
1.3.2	Range = 8^0C – (– 7^0C) ✓MA = 15^0C ✓CA	1MA subtracting correct values 1CA temperature (2)	D L1

Ques	Solution	Explanation	Topic/L
1.3.3 (a)	B ✓✓A	2A city (2)	P L1
1.3.3 (b)	Likely OR less likely ✓✓A	2A correct words (2)	P L1
1.4.1	Bar graph ✓✓A OR Single bar graph. ✓✓A OR Vertical bar graph ✓✓A OR Column graph ✓✓A	2A correct type (2)	D L1
1.4.2	✓✓A Three hundred and sixty one thousand nine hundred and forty eight.	2A number in words (2)	M L1
1.4.3	Q 5 ✓✓A	2A correct question (2)	D L1
1.4.4	Average time per mark = $\frac{180}{150}$ min ✓MA = 1,2 min ✓CA OR Average time per mark = $\frac{3\ hours}{150}$ ✓MA = 0,02 × 60 min = 1,2 min ✓CA OR 150 marks : 180 min ✓MA 1mark : 1,2 min ✓CA	1MA numerator and denominator 1CA simplification OR 1MA numerator and denominator 1CA simplification OR 1MA correct ratio 1CA simplification (2)	D L1
			[30]

NOV 2018

QUESTION/*VRAAG* 1 [32 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.1	1 / one / *een* ✓✓A OR/*OF* A day / *'n dag* ✓✓A OR/*OF* One day / *Een dag* ✓✓A	2A for correct day (2)	M L1
1.1.2	Price before saving / *Prys voor besparing* R70 + R250 ✓M = R320 ✓A	1M adding correct values 1A simplification (2)	F L1
1.1.3	Ariel ✓✓A	2A product (2)	F L1
1.1.4	✓MA 750 m ℓ ÷ 1 000 = 0,75 ℓ ✓A OR/*OF* ✓MA 750 m ℓ × 0,001 = 0,75 ℓ ✓A	1MA for dividing by 1 000 1A simplification only if division OR/*OF* 1MA for multiplying by 0,001 1A simplification only if multiplied (2)	M L1
1.1.5	Price / *Prys* = R11 × 3 ✓MA = R33,00 ✓CA	1MA multiplying correct values 1CA simplification (only if R7,70× 3) (2)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.6	R11; R15; R18; R22; R30; R43; R44; R45; R65; R250 ✓✓A	2A arranging in correct order If names used max 1 mark (2)	D L1
1.2.1	English = 35 letters **OR** 15 letters ✓✓A *Afrikaans = 37 letters **OF** 17 letters* ✓✓A	2A correct number WC, FS, NC Provinces accept both (2)	M L1
1.2.2	44 ^{0}C ✓✓A	2A correct reading Accept 44 - 45 ^{0}C (2)	M L1
1.2.3	One unit on the drawing represents twenty five units in reality / *Een eenheid op die tekening verteenwoordig vyf en twintig eenhede in werklikheid.* ✓✓A **OR/*OF*** Scale in this context means that the drawing of the T-shirt is 25 times smaller than in reality / *Skaal in hierdie konteks beteken dat die tekening van die T-hemp 25 keer kleiner is as in werklikheid.* ✓✓A **OR/*OF*** On the picture the shirt is 25 times smaller / *Op die foto is die hemp 25 keer kleiner* ✓✓A	2A correct definition Accept no units (2)	MP L1
1.2.4	± 61 mm ✓✓A	2A correct measurement (Accept 59 mm – 64 mm) Correct answer in cm = max 1 mark (2)	M L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.3.1	Two Oceans Marathon / *Twee Oseane-marathon* ✓✓RT	2RT reading from table Accept: Race on 15 April 2017 Race of 56 km Race with an entry fee of R520,00 (2)	M L1
1.3.2	Comrades Marathon / *Comrades-marathon* ✓✓RT	2RT reading from table Accept: Race on 4 June 2017 Race of 89 km Race with an entry fee of R460,00 (2)	M L1
1.3.3	R520,00 – R460,00 ✓RT = R60,00 ✓A	1RT correct values from the table 1A answer (2)	F L1
1.4.1	12 Hours / *12 Ure* ✓✓A **OR/*OF*** Half a day / *Halwe dag* ✓✓A	2A correct time Accept: 12:00 **OR/*OF*** 12 o'clock Max 1 mark (2)	M L1
1.4.2	Discrete / *Diskreet* ✓✓A	2A discrete (2)	D L1
1.4.3	✓RT 17 031 : 13 852 ✓A	1RT correct values from table 1A correct values in correct order Accept answer as unit ratios: 1 : 0,813 1,229 : 1 Accept answer in fraction form **NPR** (2)	D L1
			[32]

NOV 2019

QUESTION/*VRAAG* 1 [30 MARKS/*PUNTE*] AO			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.1	Numerical data/*Numeriese data* ✓✓A	2A correct identification (2)	D L1
1.1.2	Modal allowance/*Modale toelaag* = R1 780 ✓✓A	2A mode (2)	D L1
1.1.3	R1 715; R1 715; R1 695; R1 695; R1 695; R960; R405 ✓✓A	2A descending order Accept the names (2)	D L1
1.1.4	Increase in rand/*Verhoging in rand* ✓RT R1 780 – R1 695 = R85,00 ✓A	1RT correct 2 values 1A simplification (2)	F L1
1.1.5	Pension allowances older than 75 ✓A *Staatsouderdomstoelae ouer as* 75 War veteran allowances/*Oorlogsveteranetoelae/Toelaes vir oorlogsveterane* ✓A	1A correct allowance 1A correct allowance (2)	D L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.2.1	1 kg = 1 000 g ? = 400 g ∴ Quantity/ *massa* in kg = $\frac{400\text{g}}{1000}$ ✓MA = 0,4 kg ✓A **OR/*OF*** 400 g = $\frac{400}{1\,000}$ kg ✓MA = 0,4 kg ✓A **OR/*OF*** 400 g = 400 × 0,001kg ✓MA = 0,4 kg ✓A	1MA dividing by 1 000 1A amount in kg **OR/*OF*** 1MA dividing by 1 000 1A amount in kg **OR/*OF*** 1MA multiply by 0,001 1A amount in kg **NPU** (2)	M L1
1.2.2	Profit/*Wins* = R14,30 – R10,99 ✓RT ✓M = R3,31 ✓CA	1RT correct values 1M subtracting values 1CA simplification (3)	F L1
1.2.3	Number of packets/*Getal pakkies* 2,5 kg × $\frac{1000}{250}$ ✓MA ✓M = 10 packets/*pakkies* ✓CA **OR/*OF*** $\frac{2{,}5\text{kg}}{0{,}25\text{kg}}$ ✓C ✓M = 10 packets ✓CA **OR/*OF*** 250g : 2,5kg ✓MA 250g : 2500g ✓C 1: 10 = 10 packets ✓CA	1MA multiply by 1 000 1M dividing by 250g 1CA simplification **OR/*OF*** 1C converting into kg 1M dividing by 0,25 kg 1CA simplification **OR/*OF*** 1MA ratio concept 1C conversion to same unit 1CA simplification (3)	M L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.2.4	Selling price/*Verkoopsprys* $\frac{R29,20}{8}$ ✓MA =R3,65 ✓CA **OR/*OF*** $\frac{2kg}{8} = 0,25kg$ $\therefore$ 2kg = R29,20 $0,25\ kg = \frac{0,25 \times R29,20}{2}$ ✓MA = R3,65 ✓CA	1MA dividing correct value by 8 1CA simplification (only if dividing by 8 or correct value used) **OR/*OF*** 1MA dividing by 2 AND multiply by 0,25 1CA simplification (2)	F L1
1.3.1 (a)	69 **OR/*OF*** 69% ✓✓A	2A correct value (2)	D L1
1.3.1 (b)	80 **OR/*OF*** 80% ✓✓A	2A correct value (2)	D L1
1.3.2	Difference/*Verskil* ✓RT 84% – 64% = 20% ✓CA	1RT both correct values 1CA simplification (2)	D L1
1.4.1	16:00 **OR/*OF*** four o'clock in the afternoon/*vier uur in die middag* **OR/*OF*** 4 pm/*nm*	2A correct value (2)	D L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.4.2	Probability/*Waarskynlikheid* = 20% **OR/*OF*** 0,2 **OR/*OF*** $\frac{20}{100}$ **OR/*OF*** $\frac{2}{10}$ **OR/*OF*** $\frac{1}{5}$ **OR/*OF*** unlikely/*onwaarskynlik* **OR/*OF*** less likely/*minder waarskynlik* ✓✓A	2A correct value/words (2)	P L1
		[30]	

FINANCE
NOV 2017

QUESTION/*VRAAG* 2 [41 MARKS/*PUNTE*]			
Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.1	✓A Interest refers to the amount that will be added to an account that is not settled yet / ✓A *Rente verwys na die bedrag wat by die agterstallige bedrag gevoeg word.* OR/*OF* ✓A ✓A Extra amount is charged on the late payments / *Ekstra bedrag wat gehef word op laat betalings.* OR/*OF* ✓A ✓A Extra money to be charged on overdue fees / *Ekstra geld wat op agterstallige gelde gehef word.* OR/*OF* ✓A ✓A Money charged for not paying fees on time / *Geld gehef vir fooie nie betyds betaal nie.* OR/*OF* ✓A Interest in this context is the charge levied because of unpaid fees or late payment of fees /✓A *Dit is ekstra geld wat gehef word omdat die rekening nie op tyd betaal word nie.*	1A amount charged 1A reason (2)	F L1
2.1.2	R14 819,50 ✓✓RT	2RT balance (2)	F L1
2.1.3	✓RT $\frac{148{,}20}{14\,819{,}50} \times \frac{100}{1}\%$ ✓M = 1,000033739329937 ≈ 1% ✓CA	1RT correct values 1M multiply by 100 1CA answer (3)	F L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.4	✓RT APG 2039W Design & Theory Studio II ✓RT	1RT code 1RT name If APG omitted = full marks (2)	F L1
2.1.5	✓RT R14 967,70 – R8 650,00 ✓M = R6 317,70	1RT correct values 1M subtracting deposit (2)	F L1
2.1.6	Total amount / *Totale bedrag* ✓RT ✓M = R3 030 + R3 030 + R2 280 + R2 280 + R9 580 + R4 530 + R29 460 + R2 087 + R395,95 + R395,95 = R57 068,90 ✓CA OR/*OF* Total amount / *Totale bedrag* ✓M ✓RT = R62 594 – R6 317,70 + 2 × R395,95 = R57 068,90 ✓CA OR/*OF* Total amount / *Totale bedrag* ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 – R148,50 = R57 068,90 ✓CA OR/*OF* Total amount / *Totale bedrag* ✓RT ✓M R3 030 + R3 030 + R2 280 + R2 280 + R9 580 + R4 530 + R29 460 + R395,95 + R395,95 = R54 981,90 ✓CA OR/*OF* Total amount / *Totale bedrag* ✓M ✓RT = R62 594 – R6 317,70 + 2 × R395,95 – R2 087 = R54 981,90 ✓CA OR/*OF*	AO 1RT reading all correct values 1M adding values 1CA simplification OR/*OF* 1RT reading all correct values 1M subtracting values 1CA simplification OR/*OF* 1RT reading all correct values 1M subtracting values 1CA simplification OR/*OF* 1RT reading all correct values 1M adding values 1CA simplification OR/*OF* 1RT reading all correct values 1M subtracting values 1CA simplification OR/*OF*	F L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Total amount / *Totale bedrag* ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 – R148,50 – R2 087 = R54 981,90 ✓CA	1RT reading all correct values 1M subtracting values 1CA simplification	
	AFRIKAANS VRAESTEL: ✓RT ✓M R148,20 + R3030 + R3030 + R2280 + R2280 + R9580 + R4530 + R29460 + R2087 + R395,95 + R395,95 = R57 217,10 ✓CA **OR/*OF*** ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 = R57 217,10 ✓CA **OR/*OF*** ✓M ✓RT R62 594,70 – R6317,70 + 2 x R395,95 + R148,20 = R57 217,10 ✓CA **OR/*OF*** ✓RT ✓M R148,20 + R3030 + R3030 + R2280 + R2280 + R9580 + R4530 + R29460 + R395,95 + R395,95 = R55 130,10 ✓CA **OR/*OF*** ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 – R2 087 = R55 130,10 ✓CA **OR/*OF*** ✓M ✓RT R62 594,70 – R6317,70 + 2 x R395,95 + R148,20 – R2 087 = R55 130,10 ✓CA	1RT reading all correct values 1M adding values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M adding values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification (3)	

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.7	Direct deposit / *Direkte deposito* ✓✓RT	2RT reading correctly Accept deposit only (2)	F L1
2.1.8	Monthly instalment / *Maandelikse paaiement* R40 386,60 ÷ 5 ✓A ✓M = R8 077,32 **OR/*OF*** Monthly instalment / *Maandelikse paaiement* R8 077,32 × 5 ✓A ✓M = R40 386,60 **OR/*OF*** Monthly instalment / *Maandelikse paaiement* $\frac{R40386,60}{R8077,32}$ ✓M = 5 ✓A	1A calculating 5 1M dividing by 5 **OR/*OF*** 1A calculating 5 1M multiply by 5 **OR/*OF*** 1M dividing correct values in correct order 1A calculating 5 (2)	F L1
2.2.1	✓A Inflation is a measure of rate at which the cost of goods is changing over a period of time and is usually expressed as a percentage / ✓A *Inflasie is die meting van die koers waarteen die prys van goedere verander oor 'n tydperk en word gewoonlik uitgedruk in persentasie.* **OR/*OF*** ✓A The percentage increase of the food prices over the period 1970 – 2015 /✓A *Die persentasietoename van kospryse oor die tydperk 1970 – 2015.* **OR/*OF*** ✓A ✓A Percentage increase of price over a period of time / *Persentasie verhoging van prys oor 'n tydperk.* **OR/*OF*** ✓A ✓A Inflation is the rising price of goods/items over time / *Inflasie is die stygende prys van goedere/dienste oor tyd.*	1A percentage increase 1A time (2)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.2	R0,30 **OR/*OF*** 30c ✓✓RT	2RT correct value Accept 0,30 If the candidates only wrote 30 = max 1 mark (2)	F L1
2.2.3	✓M R557,00 – R418,00 ✓RG = R139,00 ✓CA	**AO** 1RG correct amount 1M subtracting 1CA simplification (one of the 2 values must be correct) (3)	F L1
2.2.4	Percentage change / *Presentasieverandering* ✓RT $\frac{R75,00 - R0,25}{R0,25} \times \frac{100}{1}\%$ ✓SF = 29 900 % ✓CA **OR/*OF*** Percentage change / *Presentasieverandering* ✓RT $\frac{75}{0,25} \times 100\% = 30\,000\%$ ✓M Therefore % increase = 30 000% - 100% = 29 900% ✓CA	**AO** 1RT all correct values 1SF substitute correct values 1CA correct percentage **OR/*OF*** 1RT all correct values 1M subtracting 1CA correct percentage (3)	F L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.5	Cost price / *Kosprys* $\frac{100}{117,5} \times \frac{104,90}{1}$ ✓MA = R89,28 ✓A **OR/*OF*** Cost price / *Kosprys* $\frac{104,90}{117,5\%}$ ✓MA = R89,28 ✓A **OR/*OF*** Cost price / *Kosprys* $\frac{104,90}{1,175}$ ✓MA = R89,28 ✓A **OR/*OF*** Cost price / *Kosprys* $\frac{17,5}{117,5} \times R104,90 = R15,62$ R104,90 – R15,62 ✓MA =R89,28 ✓A	**AO** 1MA multiplying correct values 1A answer **OR/*OF*** 1MA dividing correct values in the correct order 1A answer **OR/*OF*** 1MA dividing correct values in the correct order 1A answer **OR/*OF*** 1MA multiplying and subtracting correct values 1A answer (2)	F L2
2.3.1	✓✓A B **OR/*OF*** R241 600 000 000 ✓✓A	2A correct value (2)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.3.2	Budget is the proposed way in which money will be spent on different items / *Begroting is die voorgestelde manier hoe die geld vir verskillende items gespandeer behoort te word.* ✓✓A **OR/*OF*** A plan on how money is going to be spent on estimated income / *'n Plan oor hoe geld op beraamde inkomste bestee gaan word.* ✓✓A **OR/*OF*** A plan in how money is going to be spent / *'n Plan hoe geld uitgegee / spandeer gaan word.* ✓✓A **OR/*OF*** Financial plan how to spend money/finance / *Finansiële plan hoe om geld / finansiering te spandeer.* ✓✓A **OR/*OF*** Estimated income and expenditure of money / *Geskatte inkomste en uitgawes van geld.* ✓✓A	2A definition (2)	F L1
2.3.3	Skills development levy institutions / *Vaardigheidsontwikkelingheffingsinstellings* ✓✓RT	2RT correct sector (2)	F L1
2.3.4	Percentage of the total education budget / *Persentasie van die totale onderwysbegroting* ✓RG/RT $\frac{15,3}{320,5} \times 100\%$ ✓M = 4,77% ✓CA **OR/*OF*** Percentage of the total education budget / *Persentasie van die totale onderwysbegroting* ✓RG/RT $\frac{R15\ 300\ 000\ 000}{R320\ 500\ 000\ 000} \times \frac{100}{1}\%$ ✓M = 4,77% ✓CA	1RG/RT correct values 1M multiply by 100 1CA answer **OR/*OF*** 1RG/RT correct values 1M multiply by 100 1CA answer **NPR** (3)	F L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.3.5	Education Administration plus NSFAS amount to 31,1 billion rand / *Onderwysadministrasie plus NSFAS bedrag tot 31,1 miljard rand* 9,7% ✓✓A Accept any estimation from 9,5% but less than 9,86% *Aanvaar enige skatting vanaf 9,5% maar minder as 9,86%* **OR/*OF*** 15,8 + 15,3 = 31,1 billion / *miljard* ✓M = 9,7% ✓A Accept any estimation from 9,5% but less than 9,86% *Aanvaar enige skatting vanaf 9,5% maar minder as 9,86%*	**AO** 2A correct estimation **OR/*OF*** 1M adding values 1A estimated value (2)	F L2
			[41]

FEB 2018

Question 2 [44 Marks]			
Ques	**Solution**	**Explanation**	**Topic/L**
2.1.1	**Stop order**: an instruction to an employer or bank to pay / divert monthly or transfer regularly a certain amount to a person or an account. ✓✓ O **OR** **Stop order**: an instruction that an employee (individual) issue to the employer (bank) to make a series of future dated regular deductions ✓✓ O **OR** **Stop order**: Future dated regular monthly deductions ✓✓ O	2O explanation (2)	F L1
2.1.2	Difference = R940 465,89 – R536 523,25 ✓ M/A = R403 942,64 ✓ C/A	1M/A subtraction of correct value 1CA simplification AO (2)	F L1
2.1.3	Number of years (2017 – 2029) = 12 ✓ M/A Number of months in 12 years = 12 × 12 = 144 ✓ C Number of months from 10 May to 1 November = 6 ✓ A Total number of contributions = 144 + 6 = 150 ✓ CA	1M/A calculating years 1C converting years to months 1A additional months 1CA total number of months. AO (4)	F L2
2.1.4	Total contribution value ✓ M/A = (5 × 12) × R740,22 ✓ RT = R44 413,20 ✓CA	1M/A multiplying (5 and 12) 1RT reading monthly contribution 1CA total contribution AO NPR (3)	F L2
2.1.5	a greater / an increased/ a higher / more/ bigger/ larger/ inflated / better ✓✓A	2A correct missing words (2)	F L1

Ques	Solution	Explanation	Topic/L
2.1.6	R740,22 + R740,22 × 8,5% ✓MA = R740,22 + R62,9187 ✓M = R803,14 **OR** R740,22 × 108,5% ✓M ✓MA = R803,14 **OR** 740,22 × 8,5% = 62,9187 ✓MA ∴ 803,14 − 62,9187 = 740,22 ✓M	1MA percentage 1M adding two values **OR** 1M multiplying 1MA 108,5% **OR** 1MA percentage 1M subtracting values (2)	F L1
2.2.1	Hourly overtime rate = R17,76 ×1½ ✓MA = R23,68 ✓CA	1MA hours 1CA rate AO (2)	F L1
2.2.2	2017 Sunday wage rate = 19,39 × 150% = R29,09 ✓MA ✓A Total wage = 3 × 9 × R29,09 ✓A ✓M = R785,43 ✓CA **OR** 2016 Sunday wage rate = R17,90 × 150% = R26.85 ✓MA ✓A Total wage = 3 × 9 × R26,85 ✓A ✓M = R724,95 ✓CA	1MA increasing by 150% 1A Sunday hourly rate 1A hours per day 1M multiplying 1CA wage **OR** 1MA increasing by 150% 1ASunday hourly rate 1A hours per day 1M multiplying 1CA wage NPR (5)	F L2

Ques	Solution	Explanation	Topic/L
2.2.3 (a)	✓A $\%\text{ increase} = \frac{17,76-16,40}{16,40} \times 100\%$ ✓M $= 8,29268\ldots\%$ $\approx 8,3\%$ OR ✓A $\%\text{ increase} = \frac{19,39-17,90}{17,90} \times 100\%$ ✓M $= 8,324\ldots\%$ $\approx 8,3\%$ OR ✓A $R16,40 \times 1,083 = R17,76$ ✓M OR ✓A $R17,90 \times 1,083 = R19,39$ ✓M OR ✓A $R17,76 \div 1,083 = R16,40$ ✓M OR ✓A $R19,39 \div 1,083 = R17,90$ ✓M	1M percentage 1A correct values used OR 1M percentage 1A correct values used OR 1M percentage 1A correct values used OR 1M percentage 1A correct values used OR 1M percentage 1A correct values used (2)	F L1
2.2.3 (b)	$A \times 108,3\% = 21,93$ ✓RT $A = \frac{21,93}{108,3\%}$ ✓M $= R20,25$ ✓CA OR ✓RT $A = \frac{21,93}{1,083}$ ✓M $= R20,25$ ✓CA	1RT reading values 1M dividing by 108,3% 1CA amount OR 1RT reading values 1M dividing by 108,3% 1CA amount AO (3)	F L2

Ques	Solution	Explanation	Topic/L
2.2.4	2017 Total Weekly Wage ✓MA ✓RT $= (6 \times 9 \times R17,76) + (9 \times 150\% \times R17,76)$ $= R959,04 + R239,76$ $= R1\ 198,80$ ✓CA OR 2016 Total weekly wage ✓MA ✓RT $= (6 \times 9 \times R16,40) + (9 \times 150\% \times R16,40)$ $= R1\ 107,00$ ✓CA	1RT reading value from the table 1MA multiply with no. of days and hours 1CA simplification OR 1RT reading value from the table 1MA multiply with no. of days and hours 1CA simplification (3)	F L2
2.3	Total Income for the day $= 7 \times R70 + 35 \times R50 + 4 \times R75$ ✓✓RT ✓M $= R490 + R1\ 750 + R300$ $= R2\ 540$ ✓CA OR Income from bakkies $= 7 \times R70 = R490$ ✓A Income from Cars $= 35 \times R50 = R1\ 750$ ✓A Income from minibus $= 4 \times R75 = R300$ ✓A Total Income $= R2\ 540$ ✓CA	2RT correct values 1M multiply price by vehicle type 1CA total income OR 1A bakkies 1A cars 1A minibus 1CA total income AO (4)	F L1

Ques	Solution	Explanation	Topic/L
2.4.1	Employer provides people job/work for pay OR ✓✓O Employer is the company/individual who offers work opportunities for pay. ✓✓O OR Employer owner of the company ✓✓O	2O explanation (2)	F L1
2.4.2	✓O ✓O Get a few months reduced income after termination of work. OR ✓O To give employee a **short-term financial relief** should he/she become **unemployed.** ✓O ✓O OR ✓O **Make provision** for some income when a person becomes **unemployed or retrenched** or retired from work.	2O reason (2)	F L1
2.4.3 (a)	✓RT ✓M B = R6 272,16 – (R1 184,40 + R350,88) = R4 736,88✓CA ✓M OR B = 9 × 6 × 4 × 21,93 ✓RT = R4 736,88✓CA	1RT amounts 1M subtracting 1CA value of B OR 1RT amounts 1M multiplying all values 1CA value of B Accept B = (R5 131,62 If 26 days used) (3)	F L1
2.4.3 (b)	1% of gross salary = R6 272,16 – R6 209,44 ✓MA = R62,72 ✓A Total UIF amount = 2 × R62,72 = R125,44 ✓CA OR ✓A Total UIF amount = 2 × (1% of R6 272,16) = 2 × R62,7216 ✓MA = R125,44 ✓CA OR Total UIF amount = 2% of R6 272,16 ✓✓ MA = R125,44 ✓CA	1MA subtracting correct values 1A simplification 1CA total amount payable OR 1A calculating 1% 1MA 2 contributions 1CA amount OR 2MA Calculating 2% of salary 1CA amount AO (3)	F L2
			[44]

NOV 2018

QUESTION/*VRAAG* 2 [41 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.1	✓A Interest refers to the amount that will be added to an account that is not settled yet / ✓A *Rente verwys na die bedrag wat by die agterstallige bedrag gevoeg word.* **OR/*OF*** ✓A ✓A Extra amount is charged on the late payments / *Ekstra bedrag wat gehef word op laat betalings.* **OR/*OF*** ✓A ✓A Extra money to be charged on overdue fees / *Ekstra geld wat op agterstallige gelde gehef word.* **OR/*OF*** ✓A ✓A Money charged for not paying fees on time / *Geld gehef vir fooie nie betyds betaal nie.* **OR/*OF*** ✓A Interest in this context is the charge levied because of unpaid fees or late payment of fees /✓A *Dit is ekstra geld wat gehef word omdat die rekening nie op tyd betaal word nie.* (2)	1A amount charged 1A reason	F L1
2.1.2	R14 819,50 ✓✓RT (2)	2RT balance	F L1
2.1.3	✓RT $\frac{148{,}20}{14\,819{,}50} \times \frac{100}{1}\%$ ✓M = 1,000033739329937 ≈ 1% ✓CA (3)	1RT correct values 1M multiply by 100 1CA answer	F L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.4	✓RT APG 2039W Design & Theory Studio II ✓RT	1RT code 1RT name If APG omitted = full marks (2)	F L1
2.1.5	✓RT R14 967,70 – R8 650,00 ✓M = R6 317,70	1RT correct values 1M subtracting deposit (2)	F L1
2.1.6	Total amount / *Totale bedrag* ✓RT ✓M = R3 030 + R3 030 + R2 280 + R2 280 + R9 580 + R4 530 + R29 460 + R2 087 + R395,95 + R395,95 = R57 068,90 ✓CA **OR/*OF*** Total amount / *Totale bedrag* ✓M ✓RT = R62 594 – R6 317,70 + 2 × R395,95 = R57 068,90 ✓CA **OR/*OF*** Total amount / *Totale bedrag* ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 – R148,50 = R57 068,90 ✓CA **OR/*OF*** Total amount / *Totale bedrag* ✓RT ✓M R3 030 + R3 030 + R2 280 + R2 280 + R9 580 + R4 530 + R29 460 + R395,95 + R395,95 = R54 981,90 ✓CA **OR/*OF*** Total amount / *Totale bedrag* ✓M ✓RT = R62 594 – R6 317,70 + 2 × R395,95 – R2 087 = R54 981,90 ✓CA **OR/*OF***	**AO** 1RT reading all correct values 1M adding values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M adding values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF***	F L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Total amount / *Totale bedrag* ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 – R148,50 – R2 087 = R54 981,90 ✓CA **AFRIKAANS VRAESTEL:** ✓RT ✓M R148,20 + R3030 + R3030 + R2280 + R2280 + R9580 + R4530 + R29460 + R2087 + R395,95 + R395,95 = R57 217,10 ✓CA **OR/*OF*** ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 = R57 217,10 ✓CA **OR/*OF*** ✓M ✓RT R62 594,70 – R6317,70 + 2 x R395,95 + R148,20 = R57 217,10 ✓CA **OR/*OF*** ✓RT ✓M R148,20 + R3030 + R3030 + R2280 + R2280 + R9580 + R4530 + R29460 + R395,95 + R395,95 = R55 130,10 ✓CA **OR/*OF*** ✓RT ✓M R40 386 + R23000 + R8650 – R14819,50 – R2 087 = R55 130,10 ✓CA **OR/*OF*** ✓M ✓RT R62 594,70 – R6317,70 + 2 x R395,95 + R148,20 – R2 087 = R55 130,10 ✓CA	1RT reading all correct values 1M subtracting values 1CA simplification 1RT reading all correct values 1M adding values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M adding values 1CA simplification **OR/*OF*** 1RT reading all correct values 1M subtracting values 1CA simplification (3)	

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.7	Direct deposit / *Direkte deposito* ✓✓RT	2RT reading correctly Accept deposit only (2)	F L1
2.1.8	Monthly instalment / *Maandelikse paaiement* R40 386,60 ÷ 5 ✓A ✓M = R8 077,32 **OR/*OF*** Monthly instalment / *Maandelikse paaiement* R8 077,32 × 5 ✓A ✓M = R40 386,60 **OR/*OF*** Monthly instalment / *Maandelikse paaiement* $\frac{R40386,60}{R8077,32}$ ✓M = 5 ✓A	1A calculating 5 1M dividing by 5 **OR/*OF*** 1A calculating 5 1M multiply by 5 **OR/*OF*** 1M dividing correct values in correct order 1A calculating 5 (2)	F L1
2.2.1	✓A Inflation is a measure of rate at which the cost of goods is changing over a period of time and is usually expressed as a percentage / ✓A *Inflasie is die meting van die koers waarteen die prys van goedere verander oor 'n tydperk en word gewoonlik uitgedruk in persentasie.* **OR/*OF*** ✓A The percentage increase of the food prices over the period 1970 – 2015 /✓A *Die persentasietoename van kospryse oor die tydperk 1970 – 2015.* **OR/*OF*** ✓A ✓A Percentage increase of price over a period of time / *Persentasie verhoging van prys oor 'n tydperk.* **OR/*OF*** ✓A ✓A Inflation is the rising price of goods/items over time / *Inflasie is die stygende prys van goedere/dienste oor tyd.*	1A percentage increase 1A time (2)	F L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.2	R0,30 **OR/*OF*** 30c ✓✓RT	2RT correct value Accept 0,30 If the candidates only wrote 30 = max 1 mark (2)	F L1
2.2.3	✓M R557,00 – R418,00 ✓RG = R139,00 ✓CA	**AO** 1RG correct amount 1M subtracting 1CA simplification (one of the 2 values must be correct) (3)	F L1
2.2.4	Percentage change / *Presentasieverandering* ✓RT $\frac{R75,00 - R0,25}{R0,25} \times \frac{100}{1}\%$ ✓SF = 29 900 % ✓CA **OR/*OF*** Percentage change / *Presentasieverandering* ✓RT $\frac{75}{0,25} \times 100\% = 30\,000\%$ ✓M Therefore % increase = 30 000% - 100% = 29 900% ✓CA	**AO** 1RT all correct values 1SF substitute correct values 1CA correct percentage **OR/*OF*** 1RT all correct values 1M subtracting 1CA correct percentage (3)	F L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.5	Cost price / *Kosprys* $\frac{100}{117,5} \times \frac{104,90}{1}$ ✓MA = R89,28 ✓A **OR/*OF*** Cost price / *Kosprys* $\frac{104,90}{117,5\%}$ ✓MA = R89,28 ✓A **OR/*OF*** Cost price / *Kosprys* $\frac{104,90}{1,175}$ ✓MA = R89,28 ✓A **OR/*OF*** Cost price / *Kosprys* $\frac{17,5}{117,5} \times$ R104,90 = R15,62 R104,90 – R15,62 ✓MA =R89,28 ✓A	AO 1MA multiplying correct values 1A answer **OR/*OF*** 1MA dividing correct values in the correct order 1A answer **OR/*OF*** 1MA dividing correct values in the correct order 1A answer **OR/*OF*** 1MA multiplying and subtracting correct values 1A answer (2)	F L2
2.3.1	✓✓A B **OR/*OF*** R241 600 000 000 ✓✓A	2A correct value (2)	F L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.3.2	Budget is the proposed way in which money will be spent on different items / *Begroting is die voorgestelde manier hoe die geld vir verskillende items gespandeer behoort te word.* ✓✓A **OR/*OF*** A plan on how money is going to be spent on estimated income / *'n Plan oor hoe geld op beraamde inkomste bestee gaan word.* ✓✓A **OR/*OF*** A plan in how money is going to be spent / *'n Plan hoe geld uitgegee / spandeer gaan word.* ✓✓A **OR/*OF*** Financial plan how to spend money/finance / *Finansiële plan hoe om geld / finansiering te spandeer.* ✓✓A **OR/*OF*** Estimated income and expenditure of money / *Geskatte inkomste en uitgawes van geld.* ✓✓A	2A definition (2)	F L1
2.3.3	Skills development levy institutions / *Vaardigheidsontwikkelingheffingsinstellings* ✓✓RT	2RT correct sector (2)	F L1
2.3.4	Percentage of the total education budget / *Persentasie van die totale onderwysbegroting* ✓RG/RT $\frac{15,3}{320,5} \times 100\%$ ✓M = 4,77% ✓CA **OR/*OF*** Percentage of the total education budget / *Persentasie van die totale onderwysbegroting* ✓RG/RT $\frac{R15\ 300\ 000\ 000}{R320\ 500\ 000\ 000} \times \frac{100}{1}\%$ ✓M = 4,77% ✓CA	1RG/RT correct values 1M multiply by 100 1CA answer **OR/*OF*** 1RG/RT correct values 1M multiply by 100 1CA answer **NPR** (3)	F L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.3.5	Education Administration plus NSFAS amount to 31,1 billion rand / *Onderwysadministrasie plus NSFAS bedrag tot 31,1 miljard rand* 9,7% ✓✓A Accept any estimation from 9,5% but less than 9,86% *Aanvaar enige skatting vanaf 9,5% maar minder as 9,86%* **OR/*OF*** 15,8 + 15,3 = 31,1 billion / *miljard* ✓M = 9,7% ✓A Accept any estimation from 9,5% but less than 9,86% *Aanvaar enige skatting vanaf 9,5% maar minder as 9,86%*	AO 2A correct estimation **OR/*OF*** 1M adding values 1A estimated value (2)	F L2
			[41]

NOV 2019

QUESTION/*VRAAG* 2 [42 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.1	Market value/*Markwaarde* = R944 630,00 Nine hundred and forty four thousand six hundred and thirty rand. ✓✓A *Negehonderd vier en veertig duisend ses honderd en dertig rand.*	2A correct value in words NPU (2)	F L1
2.1.2	Amount of VAT/*Bedrag vir BTW* R836,02 × $\frac{15}{100}$ ✓MA = R125,40 ✓CA **OR/*OF*** R836,02 × 1,15 ✓MA = R961,42 R961,42 – R836,02 = R125,40 ✓CA	1MA correct value × $\frac{15}{100}$ 1CA simplification **OR/*OF*** 1MA correct value × 1,15 1CA simplification (2)	F L1
2.1.3	Litres/*liter* **OR/*OF*** ℓ ✓✓A	2A correct unit Accept dm^3 (2)	F L1
2.1.4	Monthly sewer charge/*Maandelikse rioolverwyderingskoste* A = R378,95 ✓✓A	2A correct charge (2)	F L1
2.1.5	Total water charge/*Totale water koste* ✓MA ✓RT B = (6 × R8,28) + (4 × R8,79) + (2 × R15,00) = R49,68 + R35,16 + R30,00 ✓M = R114,84 ✓CA	1MA identify 6, 4, 2 1RT identify R8,28; R8,79; R15,00 1M adding (at least 2 correct values) 1CA simplification (4)	F L2
2.2.1	Inverse proportion/Omgekeerde eweredigheid ✓✓A **OR/*OF*** Indirect proportion /*Indirekte eweredigheid*	2A type of proportion (2)	F L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.2	6 ✓✓A	2A correct number (2)	F L1
2.2.3	Amount per person/*Bedrag per persoon* $= \frac{\text{R3 000,00}}{7}$ ✓RT ✓MA = R428,57 ✓CA	1RT correct cost (R3 000) 1MA dividing by 7 1CA simplification (3)	F L1
2.2.4 (a)	$\frac{\text{R17 000,00}}{\text{R500,00}}$ ✓MA = 34 months/*maande* ✓CA	1MA dividing by R500,00 1CA simplification **AO** (2)	F L1
2.2.4 (b)	Interest rate/*Rentekoers* = 8,30% ✓✓A	2A correct interest rate (2)	F L1
2.2.4 (c)	Interest for 1 year/*Rente vir 1 jaar* = R17 000,00 × $\frac{8,30}{100}$ ✓M Interest for 3 years/*Rente vir 3 jaar* = R1 411,00 × 3 = R4 233,00 ✓CA = R4 200,00 ✓R **OR/*OF*** Interest earned for 3 years /*Rente verdien vir 3 jaar* R17 000,00 × $\frac{8,30}{100}$ × 3 ✓M = R4 233,00 ✓CA = R4 200,00 ✓R	**CA from Question 2.2.4 (b)** 1M interest calculation 1CA simplification 1R rounding **OR/*OF*** 1M interest calculation 1CA simplification 1R rounding (3)	F L2
2.2.4 (d)	Percentage point difference/*Persentasiepunte verskil* 8,46% − 7,76% ✓RT = 0,7% ✓CA	1RT correct values 1CA simplification **AO** (2)	F L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.4 (e)	✓RT 18 months/*maande* ✓A ✓A = 1 year and 6 months/*1 jaar en 6 maande*	1RT reading from table 1A number of years 1A number of months **AO** (3)	F L1
2.3.1	✓RT R242 700 million/*miljoen* ✓A **OR/*OF*** ✓RT R242 700 000 000 ✓A	1RT correct value (2 427) 1A number in millions **NPU** (2)	F L1
2.3.2	Total income received/*Totale inkomste ontvang*: 1 370 + 242,7 + 180,3 + 31,5 ✓MA A = 1 824,5 ✓CA	1MA adding ALL correct values 1CA simplification **NPU** (wrote billions or rands) **AO** (2)	F L1
2.3.3	Other/*Ander* ✓RT 1 823,72 – (278,4+262,4+222,6+211,0 +209,2+208,5+ 202,2 +112,7) ✓M B = 1 823,72 – 1 707 ✓MA = 116,72 ✓CA	1RT reading correct values 1M adding all the values 1MA subtracting from total 1CA value of B **NPU** (4)	F L2
2.3.4	Community development/*Gemeenskapsontwikkeling* ✓RT $= \frac{\text{R208,5}}{\text{R1 823,72}} \times 100\%$ ✓M = 11,43267607% ✓CA ***ACCEPT ONLY FOR AFRIKAANS CANDIDATES:*** Social development/*Maatskaplikesontwikkeling* ✓RT $= \frac{\text{R278,4}}{\text{R1 823,72}} \times 100\%$ ✓M = 15,26550128% ✓CA	1RT both correct values 1M percentage calculation 1CA simplification 1RT both correct values 1M percentage calculation 1CA simplification **NPR** (3)	F L2
		[42]	

MEASUREMENT
NOV 2017

QUESTION/*VRAAG* 3 [18 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1.1	15 cm + 17 cm + 19 cm + 21 cm ✓A = 72 cm × 10 ✓CA = 720 mm ✓CA	1A adding of correct values 1CA conversion 1CA answer in mm (3)	M L1
3.1.2a	Diameter / *Deursnee* = 2 × radius = 2 × 14 cm ✓M = 28 cm ✓A	AO 1M multiplying by 2 1A diameter (2)	M L1
3.1.2b	Volume of a cylinder = $\pi \times r^2$ × height *Volume van 'n silinder* = $\pi \times r^2$ × *hoogte* Volume of a cylinder = 3,142 × $(14)^2$ × 15 cm ✓SF = 3,142 × 196 cm^2 × 15 cm ✓S = 9 237,48 cm^3 ✓CA	AO 1SF substitution 1S squaring 14 1CA simplification (3)	M L2
3.1.3	The perimeter of a shape is the total distance around the edges defining the outline of that shape / ✓✓A *Die omtrek van 'n vorm is die totale afstand om die sye wat die uitleg van die vorm definieer.* **OR/*OF*** Total distance around the shape / *Totale afstand rondom 'n voorwerp* ✓✓A	2A explanation (2)	M L1
3.1.4	Area of a rectangle = length × width *Area van 'n reghoek* = *lengte* × *breedte* = 15 cm × 12 cm ✓SF = 180 cm^2 ✓CA	1SF correct substitution 1CA simplification 35 cm × 33 cm = 1 155 cm^2 Max 1 mark (2)	M L2
3.2.1	Amount / *Hoeveelheid* in kg = 3,5 ÷ 2,25 ✓C = 1,556 ✓A	1C conversion 1A simplification Accept 1,56 kg ; 1,6 kg 1,5 only = 0 marks (2)	M L2

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.2.2	1 mℓ flour = 0,7 g flour / *1 mℓ meel = 0,7 g meel* $\frac{625}{1} \times 0{,}7$ g ✓C = 437,5 g ✓A	1C conversion 1A simplification (2)	M L2
3.2.3	°C = (°F – 32°) ÷ 1,8 °C = (356° – 32°) ÷ 1,8 ✓SF °C = (324°) ÷ 1,8 = 180 °C ✓A	1SF correct substitution 1A simplification (2)	M L2
		[18]	

FEB 2018

QUESTION 3 [25 MARKS]			
Ques	**Solution**	**Explanation**	**Topic/L**
3.1.1	✓RT ✓RT 6 months to 2 years. OR ✓RT ✓RT (½ year to 2 years) OR 6 months to 24 months ✓RT ✓RT	2RT age Accept 23-24 months (2)	M L1
3.1.2	8 kg ✓✓RT	2RT mass/weight (2)	M L1
3.1.3	12 months to 15 months ✓✓ RT	2RT (one age in this range) (2)	M L1
3.1.4	February ✓✓A	2Acorrect month (2)	M L1
3.1.5	$BMI = \frac{\text{weight (in kg)}}{(\text{height in m})^2}$ $19,5\ kg/m^2 = \frac{11,2}{(\text{height in m})^2}$ ✓ SF ✓ M $\text{Height} = \sqrt{\frac{11,2}{19,5}}$ ✓ M $= 0,758\ m$ ✓ CA	1SF correct values 1M new subject 1M finding sq. root 1CA simplification AO (4)	M L2
3.2.1	$\text{Distance} = \frac{55\ \text{litre}}{7,6\ \text{litre}} \times 100\ km$ ✓ MA ✓ MA $= 723,68$ $\approx 724\ km$ ✓ R	1MA multiply by 100 1MA divide by 7,6 1R distance AO (3)	M L2
3.2.2	$\text{Average speed} = \frac{189}{01h45} = \frac{189}{1,75}$ ✓ SF ✓ C $= 108\ km/h$ ✓ CA	1C to hours 1SF correct values 1CA Average speed AO (3)	M L2
3.3.1	$\text{Volume} = 53,34cm \times 17,78cm \times 42,32\ cm$ ✓ SF $= 40\ 135,66\ cm^3$ ✓ CA $= \frac{40\ 135,66}{1000}\ \text{litres}$ ✓ MA $= 40\ \text{litres}$ ✓ R	1SF correct substitution 1CA volume 1MA dividing by 1 000 1R volume in litres (4)	M L3
3.3.2	$P_{(U)} = \frac{3}{12}$ or $\frac{12}{48}$ ✓ A ✓ A $= 0,25$ ✓ CA	1A numerator 1A denominator 1CA decimal AO (3)	P L2
			[25]

NOV 2018

QUESTION/*VRAAG* 3 [18 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1.1	15 cm + 17 cm + 19 cm + 21 cm ✓A $= 72\ cm \times 10$ ✓CA $= 720\ mm$ ✓CA	1A adding of correct values 1CA conversion 1CA answer in mm (3)	M L1
3.1.2a	Diameter / *Deursnee* = 2 × radius $= 2 \times 14\ cm$ ✓M $= 28\ cm$ ✓A	AO 1M multiplying by 2 1A diameter (2)	M L1
3.1.2b	Volume of a cylinder = $\pi \times r^2 \times$ height *Volume van 'n silinder* = $\pi \times r^2 \times$ *hoogte* Volume of a cylinder = $3,142 \times (14)^2 \times 15\ cm$ ✓SF $= 3,142 \times 196\ cm^2 \times 15\ cm$ ✓S $= 9\ 237,48\ cm^3$ ✓CA	AO 1SF substitution 1S squaring 14 1CA simplification (3)	M L2
3.1.3	The perimeter of a shape is the total distance around the edges defining the outline of that shape / ✓✓A *Die omtrek van 'n vorm is die totale afstand om die sye wat die uitleg van die vorm definieer.* **OR/*OF*** Total distance around the shape / *Totale afstand rondom 'n voorwerp* ✓✓A	2A explanation (2)	M L1
3.1.4	Area of a rectangle = length × width *Area van 'n reghoek* = *lengte* × *breedte* $= 15\ cm \times 12\ cm$ ✓SF $= 180\ cm^2$ ✓CA	1SF correct substitution 1CA simplification 35 cm × 33 cm = 1 155 cm^2 Max 1 mark (2)	M L2
3.2.1	Amount / *Hoeveelheid* in kg = 3,5 ÷ 2,25 ✓C = 1,556 ✓A	1C conversion 1A simplification Accept 1,56 kg ; 1,6 kg 1,5 only = 0 marks (2)	M L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.2	1 mℓ flour = 0,7 g flour / *1 mℓ meel = 0,7 g meel* $\frac{625}{1} \times 0{,}7$ g ✓C = 437,5 g ✓A	1C conversion 1A simplification (2)	M L2
3.2.3	°C = (°F – 32°) ÷ 1,8 °C = (356° – 32°) ÷ 1,8 ✓SF °C = (324°) ÷ 1,8 = 180 °C ✓A	1SF correct substitution 1A simplification (2)	M L2
		[18]	

NOV 2019

QUESTION/*VRAAG* 3 [26 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.1.1	Volume = It is the amount of solids or liquids an object can take/hold. *Volume = Is die hoeveelheid vaste of vloeistowwe 'n voorwerp kan vat.* ✓✓A **OR/*OF*** Volume is the amount of space occupied by an object *Volume is die hoeveelheid spasie opgeneem deur die voorwerp.*	2A explanation (2)	M L1
3.1.2	Volume = side × side × height/*sy* × *sy* × *hoogte* ✓C = 0,5 m × 0,5 m × 0,08 m ✓SF = 0,02 m^3 ✓CA **OR/*OF*** $\frac{20\,000\text{ cm}^3}{1000000}$ ✓SF 50 cm × 50 cm × 8 cm = 0,02 m^3 ✓C ✓CA	1SF correct substitution 1C conversion 1CA simplification **OR/*OF*** 1 SF correct substitution 1C conversion 1CA simplification (3)	M L2
3.2.1	Area of one block = length × breadth = 50 cm × 50 cm ✓SF = 2 500 cm^2 Area of 12 blocks = 0,25 m^2 × 12 ✓MA = 3 m^2 ✓CA **OR/*OF*** Area of one block = length × breadth = 0,5 m × 0,5 m ✓SF = 0,25 m^2 Area of 12 blocks = 0,25 m^2 × 12 ✓MA = 3 m^2 ✓CA **OR/*OF***	**CA from Question 3.1.2** 1SF substituting correct values 1MA multiply by 12 1CA answer in m^2 **OR/*OF*** 1SF substituting correct values 1MA multiply by 12 1CA answer in m^2 **OR/*OF***	M L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Area of 12 blocks = 12 × (side × side) *Area van 12 blokke* = 12 × (0,5 m × 0,5 m) ✓SF = 12 × 0,25 m^2 ✓MA = 3 m^2 ✓CA **OR/*OF*** Area of 12 blocks = 12 × (side × side) *Area van 12 blokke* = 12 × (50 cm × 50 cm) ✓SF = 12 × 2 500 cm^2 ✓MA = 3 m^2 ✓CA	1SF substituting correct values 1MA multiply by 12 1CA answer in m^2 **OR/*OF*** 1SF substituting correct values 1MA multiply by 12 1CA answer in m^2 (3)	
3.2.2	Area of walkway ✓SF 4,05 m × 1,45 m = 5,8725 m^2 ✓A Area to be covered with pebbles = 5,8725 m^2 – 3 m^2 ✓MCA = 2,8725 m^2 ✓CA **OR/*OF*** Area to be covered with pebbles ✓SF (4,05 m × 1,45 m) – 3 m^2 ✓A = 5,8725 m^2 – 3 m^2 ✓MCA = 2,8725 m^2 ✓CA **OR/*OF*** Area of walkway ✓SF 405 cm × 145 cm = 58 725 cm^2 ✓A Area to be covered with pebbles = 58 725 cm^2 – 30 000 cm^2 ✓MCA = 28 725 cm^2 ✓CA **OR/*OF***	**CA from Question 3.2.1** 1SF substitution 1A simplification 1MCA subtracting area of blocks 1CA simplification **OR/*OF*** 1SF substitution 1A simplification 1MCA subtracting area of blocks 1CA simplification **OR/*OF*** 1SF substitution 1A simplification 1MCA subtracting area of blocks 1CA simplification **OR/*OF***	M L3

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.2	Area to be covered with pebbles ✓SF (405 cm × 145 cm) – 30 000 cm^2 ✓A = 58 725 cm^2 – 30 000 cm^2 ✓MCA = 28 725 cm^2 ✓CA	1SF substitution 1A simplification 1MCA subtracting area of blocks 1CA simplification **NPR** (4)	
3.2.3	$\frac{5,7\ m^2}{0,36\ m^2}$ ✓MA = 15,833 ✓CA = 16 bags of pebbles/*sakkies klippies* ✓RCA	1MA dividing by 0,36 m^2 1CA simplification 1RCA rounding (3)	M L2
3.3.1	Length of large window frame/*Lengte van die groot vensterraam* $\frac{890\ mm}{10}$ ✓MA = 89 cm ✓CA	 1MA dividing by 10 1CA simplification **AO** (2)	M L1
3.3.2	Perimeter/*Omtrek* ✓MA = 18,5 cm + 18,5 cm + 18,5 cm + 18,5 cm = 74 cm ✓CA **OR/*OF*** Perimeter/*Omtrek* = 4 × 18,5 cm ✓MA = 74 cm ✓CA ***AFRIKAANS ONLY OMIT SUB QUESTION 3.3.2 – UPSCALE FROM 24 TO 26***	 1MA adding 4 sides 1CA simplification **OR/*OF*** 1MA side multiplied by four 1CA simplification (2)	M L1
3.3.3	Diameter/*Deursnee* = 1,85 cm × 2 = 3,7 cm ✓A $\frac{18,5\ cm}{3,7\ cm}$ ✓M = 5 beads ✓CA	1A diameter 1M dividing by diameter 1CA simplification (3)	M L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.3.4	✓MA $2 \times 18{,}5 \text{ cm} = \frac{3}{4}$ of the width of the large window/*van die wydte van die grooter venster* ✓A $37 \text{ cm} = \frac{3}{4}$ of the width of the large window/*van die wydte van die grooter venster* Width of large window/*breedte van groot venster* $=37 \text{ cm} \times \frac{4}{3}$ ✓MA $= 49{,}33 \text{ cm}$ ✓CA	1MA multiply 18,5 by 2 1A simplification 1MA multiply with inverse 1CA simplification **NPR** **(4)**	M L2
		[26]	

MAPS, PLANS AND OTHER REPRESENTATIONS OF THE PHYSICAL WORLD
NOV 2017

QUESTION/*VRAAG* 4 [24 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.1	South West OR SW *Suidwes* **OF** *SW* ✓✓A	2A direction (2)	MPL 2
4.1.2	Namaqua National Park / *Namakwa Nasionale Park* ✓✓RM	2RM national Park (2)	MPL 1
4.1.3	✓✓RM ✓RM Keimoes, Kakamas, Pofadder (Any 2 of the 3/*enige 2 van die 3*)	2RM first correct town 1RM second correct town (3)	MPL 1
4.1.4	Ratio scale OR number scale OR numerical scale *Verhoudingskaal* **OF** *nommerskaal* **OF** *getalskaal* ✓✓A	2A ratio / number / numerical Accept unit ratio (2)	MP L1
4.1.5	✓A Measured distance /*Gemete afstand* = 135 mm 1 : 3 007 874 135 mm × 3 007 874 ✓M = 406 062 990 mm $= \frac{406\,062\,990}{1\,000\,000}$ ✓C = 406 km ✓R **OR/*OF*** ✓A 13,5 cm × 3 007 874 ✓M $\frac{40606299\text{cm}}{100\,000}$ ✓C = 406,06299 km ≈ 406 km ✓R	1A measures distance 1M using scale 1C conversion 1R to the nearest km (Range: 130 mm to 140 mm) **OR/*OF*** 1A measures distance 1M using scale 1C conversion 1R to the nearest km (Range: 13 cm to 14 cm) (4)	MPL 3
4.2.1	Voortrekker Road / *Voortrekkerstraat* ✓✓RM **OR/*OF*** N14 ✓✓RM	2RM correct road (2)	MPL 1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2	Rivier Street / *Rivierstraat* ✓✓RM	2RM correct road (2)	MP L2
4.2.3	Debs-Lodge / *Debs-Lodge* ✓✓RM	2RM correct road (2)	MP L2
4.2.4	Time / *Tyd* = $\frac{2{,}34\text{ km}}{40\text{ km/h}}$ ✓SF = 0,0585 h × 60 ✓C = 3,51 minutes ✓CA	1SF calculating time 1C multiply by 60 1CA simplification **NPR** (3)	MP L2
4.2.5	$P = \frac{13}{42}$ ✓A ✓A **OR/*OF*** 0,310 **OR/*OF*** 31% **OR/*OF*** ✓MA $1 - \frac{29}{42} = \frac{13}{42}$ ✓A	1A numerator (independent) 1A denominator **OR/*OF*** 1MA subtracting from 1 1A simplification (2)	P L2
		[24]	

FEB 2018

QUESTION 4 [19 MARKS]			
Ques	**Solution**	**Explanation**	**Topic/L**
4.1.1	✓A ✓A N10 and N2	1A N10 1A N2 (2)	MP L1
4.1.2	✓✓RT Mountain Zebra N.P	2RTcorrect name (2)	MP L1
4.1.3	Kirkwood ✓✓A	2A correct hometown (2)	MP L2
4.1.4	✓RT ✓M Distance = 25 km + (207 km – 22 km) + 24 km = 234 km ✓CA OR ✓RT ✓M Distance = 24 km + (380 km – 195 km) + 25 km = 234 km ✓CA	1RT correct distances 1M adding 1CA difference OR 1RT correct distances 1M adding 1CA difference AO (3)	MP L2
4.2.1	3750 mm ✓✓A	2A distance (2)	MP L1
4.2.2	Total exterior length of western wall = 3 550 mm + 3750 mm✓A = 7 300 mm = 7,3 m ✓C OR Total exterior length of western wall = 3, 55 m + 1, 7 m + 2, 05 m ✓A = 7, 3 m ✓C	1A adding 3 correct distances 1C conversion to m OR 1A adding correct distances of Eastern wall (opp. Side //) 1C conversion to m AO (2)	MP L1
4.2.3	Living room. ✓✓A	2A (Passage and/or Kitchen maximum 1 mark) (2)	MP L1
4.2.4	Bedroom 2 ✓✓A	2A room (2)	MP L1
4.2.5	Wash basin/sink/water basin OR Shower OR ✓✓A Cupboard	2A any item (2)	MP L1
			[19]

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QUESTION/*VRAAG* 4 [24 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	South West OR SW *Suidwes OF SW* ✓✓A	2A direction (2)	MPL 2
4.1.2	Namaqua National Park / *Namakwa Nasionale Park* ✓✓RM	2RM national Park (2)	MPL 1
4.1.3	✓✓RM ✓RM Keimoes, Kakamas, Pofadder (Any 2 of the 3/*enige 2 van die 3*)	2RM first correct town 1RM second correct town (3)	MPL 1
4.1.4	Ratio scale OR number scale OR numerical scale *Verhoudingskaal OF nommerskaal OF getalskaal* ✓✓A	2A ratio / number / numerical Accept unit ratio (2)	MP L1
4.1.5	✓A Measured distance /*Gemete afstand* = 135 mm 1 : 3 007 874 135 mm × 3 007 874 ✓M = 406 062 990 mm $= \frac{406\,062\,990}{1\,000\,000}$ ✓C = 406 km ✓R OR/*OF* ✓A 13,5 cm × 3 007 874 ✓M $\frac{40606299\text{cm}}{100\,000}$ ✓C = 406,06299 km ≈ 406 km ✓R	1A measures distance 1M using scale 1C conversion 1R to the nearest km (Range: 130 mm to 140 mm) OR/*OF* 1A measures distance 1M using scale 1C conversion 1R to the nearest km (Range: 13 cm to 14 cm) (4)	MPL 3
4.2.1	Voortrekker Road / *Voortrekkerstraat* ✓✓RM OR/*OF* N14 ✓✓RM	2RM correct road (2)	MPL 1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2	Rivier Street / *Rivierstraat* ✓✓RM	2RM correct road (2)	MP L2
4.2.3	Debs-Lodge / *Debs-Lodge* ✓✓RM	2RM correct road (2)	MP L2
4.2.4	Time / *Tyd* = $\frac{2{,}34\text{ km}}{40\text{ km/h}}$ ✓SF = 0,0585 h × 60 ✓C = 3,51 minutes ✓CA	1SF calculating time 1C multiply by 60 1CA simplification **NPR** (3)	MP L2
4.2.5	$P = \frac{13}{42}$ ✓A ✓A **OR/*OF*** 0,310 **OR/*OF*** 31% **OR/*OF*** ✓MA $1 - \frac{29}{42} = \frac{13}{42}$ ✓A	1A numerator (independent) 1A denominator **OR/*OF*** 1MA subtracting from 1 1A simplification (2)	P L2
		[24]	

NOV 2019

QUESTION/*VRAAG* 4 [24 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.1	Camping, swimming, dining(eating) and checking-in (enquiries/registration/making payments). *Kampeer, swem en eet en inboek (navrae/registrasie/betalings maak).* ✓✓✓✓ A	4A 4 correct activities (4)	MP L1
4.1.2	Umngeni ✓✓ RT	2RT reading from map (2)	MP L1
4.1.3	5 restaurants / *restaurante* ✓✓ RT	2RT reading from map (2)	MP L1
4.1.4	Bar Scale/Staafskaal ✓✓A	2A correct scale Accept: Line scale/*Lynskaal*/ *Balkskaal* (2)	MP L1
4.1.5	✓A 4,2 cm = 4 km 1 cm = 0,9524 km ✓M ✓MA ∴10 cm = 9,524 km ≈ 10 km ✓CA **OR/*OF*** $\frac{10\text{ cm}}{4{,}2\text{ cm}} \times 4\text{ km}$ ✓M ✓MA ✓A = 9,524 km ≈ 10 km ✓CA **OR/*OF*** ✓A 2,1 cm = 2 km 1 cm = 0,9524 km ✓M ✓MA ∴10 cm = 9,524 km ≈ 10 km ✓CA **OR/*OF***	1A measure bar scale 1M concept of scale 1MA multiply by scale 1CA conversion **OR/*OF*** 1A measure bar scale 1M concept of scale 1MA multiply by scale 1CA conversion **OR/*OF*** 1A measure bar scale 1M concept of scale 1MA multiply by scale 1CA conversion **OR/*OF***	MP L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.5	$\frac{10\text{ cm}}{2{,}1\text{ cm}}$ ✓M $\times 2\text{km}$ ✓MA ✓A = 9,524 km ≈ 10 km ✓CA	1A measure bar scale 1M concept of scale 1MA multiply by scale 1CA conversion Accept 4,1 cm – 4,3 cm Accept 2 cm – 2,1 cm (4)	
4.1.6	Total distance/*Totale afstand* = 10 km × 2 = 20 km ✓MA Time/*tyd* = $\frac{20\text{km}}{30\text{km/h}}$ ✓SF ✓C Time/*tyd* = 0,6666666667 hours × 60 = 40 minutes/*minute* ✓CA **OR/*OF*** Time/*tyd* = $\frac{10\text{km}}{30\text{km/h}}$ ✓SF = 0,3333 ✓C ∴ In minutes/*minute* = 0,3333 × 60 = 20 minutes/*minute* ✓MA ∴ Total time/*Totale tyd* = 20 ×2 = 40 minutes/*minute* ✓CA	 1MA total distance (20 km) 1SF correct substitution 1C conversion 1CA simplification **OR/*OF*** 1SF correct substitution 1C conversion 1MA simplification 1CA simplification (4)	MP L2
4.2.1	2 ✓✓A	2A number of doors Accept 3 (2)	MP L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2	✓RT ✓RT Bedroom 1, Bathroom and Bedroom 2 / *Slaapkamer 1, Badkamer en Slaapkamer 2* **OR/*OF*** ***ONLY AFRIKAANS CANDIDATES:*** ✓RT ✓RT *Slaapkamer 1, Kombuis*	1RT first room 1RT other 2 rooms **OR/*OF*** 1RT bedroom 1 1RT kitchen (2)	MP L2
4.2.3	$\frac{0}{2}$ **OR/*OF*** 0 **OR/*OF*** 0% ✓✓A **OR/*OF*** Impossible/*Onmoontlik*	2A probability (2)	P L2
		[24]	

DATA HANDLING
NOV 2017

QUESTION/*VRAAG* 5 [35 MARKS/*PUNTE*]

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.1.1	R2 085 600 000 ✓✓RT **OR/*OF*** R2 085,6 million / *miljoen* ✓✓RT **OR/*OF*** R2,0856 billion / *miljard* ✓✓RT	2RT correct amount Table value = max 1 mark (2)	D L1
5.1.2	$\frac{\text{R1 323+R2 085,6+R3 162+R2 158+R1 847+R2 732}}{6}$ ✓RT ✓M million / *miljoen* ✓CA = R2 217 933 333 ***OR/OF*** R2 217,933333 million / *miljoen*	**AO** 1RT correct values 1M concept of mean 1CA simplification **NPR** (3)	D L2
5.1.3	✓A ✓A Maximum = 46,1 thousand / *duisend* **OR/*OF*** Maximum = 46 100 ✓✓RT	1A correct value 1A unit **OR/*OF*** 2RT correct maximum (2)	D L1
5.1.4	✓RT $A = \frac{2\,158\,000\,000}{3\,441\,000\,000\,000} \times \frac{100\,\%}{1}$ ✓M = 0,062714327% ✓CA = 0,06% ✓R	**AO** 1RT correct values 1M multiply by 100 1CA simplification 1R rounding If omitted zeros = max 3 marks (4)	D L2
5.2.1	A person who is able and willing to work, but cannot find work / *'n Persoon wat geskik en gewillig is om te werk, maar nie 'n werk kry nie.* ✓✓A **OR/*OF*** People who are without work / *Mens wat sonder werk is* ✓✓A **OR/*OF*** People who are jobless / *Mense wat werkloos is* ✓✓A **OR/*OF*** Not earning a salary / wage / income *Verdien nie 'n salaris / loon / inkomste nie* ✓✓A **OR/*OF*** Retrenched / *Afgedank* ✓✓A	2A explanation (2)	D L1
5.2.2	X = 1 748 – 506 ✓M =1 242 ✓A **OR/*OF*** ✓M X = 16 172 – (1 391+ 806 + 4 991+ 2 513 + 1 417 + 321 + 999 + 2 492) = 1 242 ✓A	1M subtracting correct values 1A simplification 1M subtracting correct values 1A simplification No penalty for including zeros (2)	D L1
5.2.3	Questionnaire / *vraelys* ✓✓A **OR/*OF*** Survey / *opname* ✓✓A **OR/*OF*** Population census / *populasie sensus* ✓✓A **OR/*OF*** Document analysis / *dokument analise* ✓✓A **OR/*OF*** Interview / *onderhoud* ✓✓A	2A correct answer (2)	D L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.4	Percentage of people / *Persentasie mense* $\frac{1412\,000}{4507\,000}$ ✓RT $\times \frac{100}{1}$ %✓M = 31,329 % ✓CA	1RT using both correct values 1M percentage calculation 1CA simplification If omitted zeros = full marks NPR (3)	D L2
5.2.5	16 172 000 : 5 882 000 ✓RT 2,7494 : 1 ✓A	1RT both correct values 1A ratio in unit form Accept: 2,749 / 2,75 / 2,7 (2)	D L2
5.2.6	Probability (NEA) = $\frac{697\,000}{1\,893\,000}$ ✓RT ✓RT = 0,368 ✓CA **OR/*OF*** Probability (NEA) = $\frac{697\,000}{15\,475\,000}$ ✓RT ✓RT = 0,045✓CA **AFRIKAANS VRAESTEL** Probability (NEA) = $\frac{1\,196\,000}{1\,893\,000}$ ✓RT ✓RT = 0,63 ✓CA ≈ 0,6 **OR/*OF*** Probability (NEA) = $\frac{1\,196\,000}{22\,054\,000}$ ✓RT ✓RT = 0,05 ✓CA ≈ 0,1	**AO** 2RT correct values 1CA simplification **OR/*OF*** 2RT correct values 1CA simplification **OR/*OF*** 2RT correct values 1CA simplification **OR/*OF*** 2RT correct values 1CA simplification If omitted zeros = full marks NPR (3)	P L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.7	**Do not mark this question.** ***Moenie hierdie vraag merk nie.***		
5.2.8	$\frac{3}{9}$ ✓✓A ✓A = $\frac{1}{3}$ ✓CA	**AO** 2A numerator 1A denominator 1CA simplification (4)	P L3
		[35]	
		TOTAL: 150	

FEB 2018

QUESTION 5 [32MARKS]			
Ques	**Solution**	**Explanation**	**Topic/L**
5.1.1	Numerical ✓✓A	2A answer (2)	D L1
5.1.2	50% ✓✓A	2A answer (2)	D L1
5.1.3	Range = Maximum - minimum ✓M 34 = 90 – F ✓RT F = 90 – 34 = 56 ✓CA	1M range concept (can be implied) 1RT correct values 1CA simplification AO (3)	D L2
5.1.4	Median % = $\frac{67+69}{2}$ ✓M = 68 ✓A	1M concept of median 1A median AO (2)	D L2
5.1.5	Inter-quartile range = $Q_3 - Q_1$ ✓M Inter-quartile range = 70 – 20 ✓RT = 50 ✓ CA	1M IQR concept(implied) 1RT correct values 1CA simplification AO (3)	D L2
5.1.6	66 ✓✓A	2A mode (2)	D L1
5.1.7	Mean = $\frac{\text{sum of the marks}}{\text{total number of learners}}$ $70 = \frac{1741+H}{26}$ ✓A ✓MA 1 820 = 1 741 + H H = 79 ✓CA	1MA mean concept (implied) 1A adding values 1CA value of H AO (3)	D L3
5.1.8	$P_{(\text{equal marks})} = \frac{13}{26}$ ✓A ✓ A $= \frac{1}{2}$ ✓CA	1A numerator 1A denominator 1CA simplification AO (3)	P L3

Ques	**Solution**	**Explanation**	**Topic/L**
5.2.1	Q = 288 912 + 393 954 + 94 552 + 192 933 + 650 033 + 299 994 + 575 371 + 312 273 + 372 090 ✓MA = 3 180 118 ✓CA OR Q = 15 353 036 – 12 172 919 = 3180 118 ✓MA ✓CA	1MA adding all Non-literate adults 1CA Simplification OR 1MA subtracting Literate from Total 1CA simplification AO (2)	D L1
5.2.2	% literate = $\frac{12172919}{15353036} \times 100$ ✓RT ✓M ≈ 79,3 ✓ CA OR % literate = $100 - \left(\frac{3\,180\,118}{15\,353\,036} \times 100\right)$ ✓RT ✓M ≈ 100 - 20,71 ≈ 79,3 ✓ CA	1RT numerator and denominator 1M multiply by 100 1CA answer AO 1RT numerator and denominator 1M multiply by 100 1CA answer NPR (3)	D L2
5.2.3	Non Literate: Literacy = 650 033:1 956 497 ✓ RT $= \frac{650\,033}{650\,033} : \frac{1\,956\,497}{650\,033}$ ✓MA = 1 : 3,009842577 ≈1 : 3 or 1 : 3,01 or 1 : 3,0099 ✓ CA	1RT both values 1MA ratio in correct order CA unit ratio NPR (3)	D L2
5.2.4	244 282; 609 029; 760 029;784 347; 922 171; 1 120 567; 1 762 494; 1 956 497; 4 013 463 ✓✓MA	2MA arranging (2) (Descending 1 Mark; Omitting 1 value 1 mark)	D L1
5.2.5	Northern Cape (NC) ✓✓A	2A correct province (2)	D L1
			[32]

NOV 2018

QUESTION/*VRAAG* 5 [35 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.1.1	R2 085 600 000 ✓✓RT **OR/*OF*** R2 085,6 million / *miljoen* ✓✓RT **OR/*OF*** R2,0856 billion / *miljard* ✓✓RT	2RT correct amount Table value = max 1 mark (2)	D L1
5.1.2	$\frac{\text{R1 323} + \text{R2 085,6} + \text{R3 162} + \text{R2 158} + \text{R1 847} + \text{R2 732}}{6}$ ✓RT ✓M million / *miljoen* ✓CA = R2 217 933 333 ***OR/OF*** R2 217,933333 million / *miljoen*	**AO** 1RT correct values 1M concept of mean 1CA simplification **NPR** (3)	D L2
5.1.3	✓A ✓A Maximum = 46,1 thousand / *duisend* **OR/*OF*** Maximum = 46 100 ✓✓RT	1A correct value 1A unit **OR/*OF*** 2RT correct maximum (2)	D L1
5.1.4	$A = \frac{2\ 158\ 000\ 000}{3\ 441\ 000\ 000\ 000} \times \frac{100\%}{1}$ ✓RT ✓M = 0,062714327% ✓CA = 0,06% ✓R	**AO** 1RT correct values 1M multiply by 100 1CA simplification 1R rounding If omitted zeros = max 3 marks (4)	D L2
5.2.1	A person who is able and willing to work, but cannot find work / *'n Persoon wat geskik en gewillig is om te werk, maar nie 'n werk kry nie.* ✓✓A **OR/*OF***	2A explanation	D L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	People who are without work / *Mens wat sonder werk is* ✓✓A **OR/*OF*** People who are jobless / *Mense wat werkloos is* ✓✓A **OR/*OF*** Not earning a salary / wage / income *Verdien nie 'n salaris / loon / inkomste nie* ✓✓A **OR/*OF*** Retrenched / *Afgedank* ✓✓A	2A explanation (2)	
5.2.2	X = 1 748 – 506 ✓M =1 242 ✓A **OR/*OF*** ✓M X = 16 172 – (1 391+ 806 + 4 991+ 2 513 + 1 417 + 321 + 999 + 2 492) = 1 242 ✓A	1M subtracting correct values 1A simplification 1M subtracting correct values 1A simplification No penalty for including zeros (2)	D L1
5.2.3	Questionnaire / *vraelys* ✓✓A **OR/*OF*** Survey / *opname* ✓✓A **OR/*OF*** Population census / *populasie sensus* ✓✓A **OR/*OF*** Document analysis / *dokument analise* ✓✓A **OR/*OF*** Interview / *onderhoud* ✓✓A	2A correct answer (2)	D L1

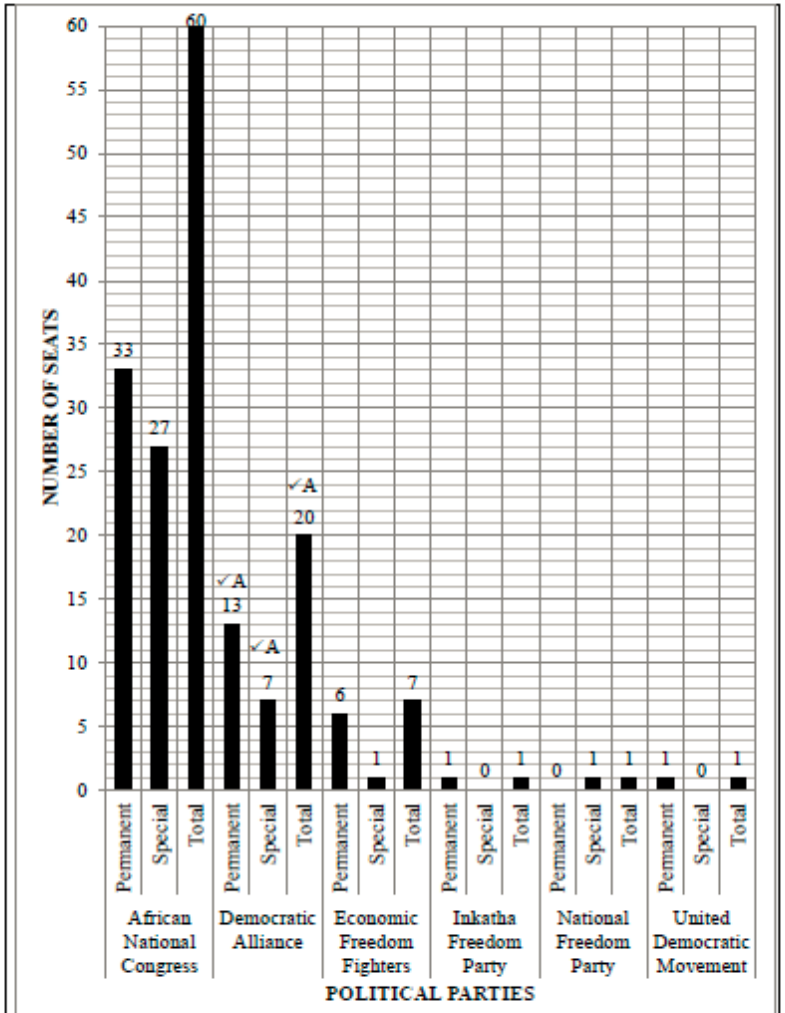
Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.4	Percentage of people / *Persentasie mense* $\frac{1412\,000}{4507\,000} \times \frac{100}{1}$ ✓RT ✓M = 31,329 % ✓CA	1RT using both correct values 1M percentage calculation 1CA simplification If omitted zeros = full marks NPR (3)	D L2
5.2.5	16 172 000 : 5 882 000 ✓RT 2,7494 : 1 ✓A	1RT both correct values 1A ratio in unit form Accept: 2,749 / 2,75 / 2,7 (2)	D L2
5.2.6	Probability (NEA) = $\frac{697\,000}{1\,893\,000}$ ✓RT ✓RT = 0,368 ✓CA **OR/*OF*** Probability (NEA) = $\frac{697\,000}{15\,475\,000}$ ✓RT ✓RT = 0,045 ✓CA **AFRIKAANS VRAESTEL** Probability (NEA) = $\frac{1\,196\,000}{1\,893\,000}$ ✓RT ✓RT = 0,63 ✓CA ≈ 0,6 **OR/*OF*** Probability (NEA) = $\frac{1\,196\,000}{22\,054\,000}$ ✓RT ✓RT = 0,05 ✓CA ≈ 0,1	**AO** 2RT correct values 1CA simplification **OR/*OF*** 2RT correct values 1CA simplification **OR/*OF*** 2RT correct values 1CA simplification **OR/*OF*** 2RT correct values 1CA simplification If omitted zeros = full marks NPR (3)	P L2

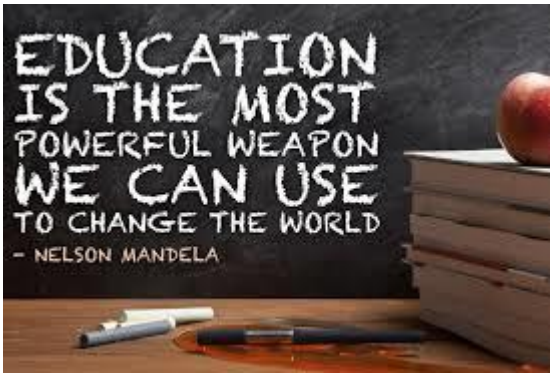
Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.7	**Do not mark this question.** ***Moenie hierdie vraag merk nie.***		
5.2.8	$\frac{3}{9}$ ✓✓A ✓A $= \frac{1}{3}$ ✓CA	**AO** 2A numerator 1A denominator 1CA simplification (4)	P L3
		[35]	
		TOTAL: 150	

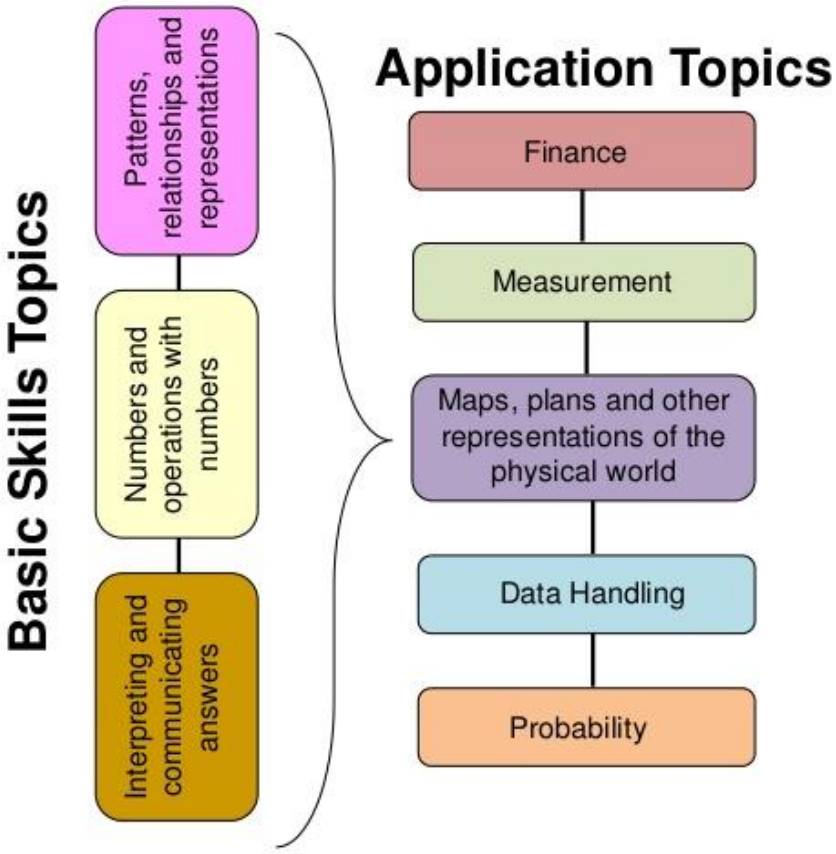
NOV 2019

QUESTION/*VRAAG* 5 [28 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.1.1	Questionnaires **OR** Interviews **OR** Survey **OR** Document analysis **OR** Research **OR** Observation *Vraelys* **OF** *Onderhoud* **OF** *Meningspeiling (opname)* **OF** *Dokument analise* **OF** *Navorsing* **OF** *Observeer* ✓✓A	2A means of collecting data (2)	D L1
5.1.2	**% Yard trimmings/*Werfsnoeisels*** ✓MA = 100% − (3,4% + 11,2% + 49,7% + 3,3% +9,0%) = 100% − 76,6% ✓M = 23,4% ✓CA	1MA adding all correct values 1M subtracting from 100% 1CA simplification **AO** (3)	D L2
5.1.3	**% Textiles/*Tekstiele*** = 11,2% − (1,6% + 2,3% + 2,9% + 1,7%) = 11,2% − 8,5% ✓MA = 2,7% ✓CA	1MA subtracting from 11,2% 1CA simplification **AO** (2)	D L2
5.1.4	Tons of plastic/*Ton plastiek* ✓RT $91\,160\,000 \times \frac{3,4}{100}$ ✓MA = 3 099 440 tons/*ton* ✓CA **OR/*OF*** ✓RT $91,16 \times \frac{3,4}{100}$ ✓MA = 3,09944 million tons/*ton* ✓CA	1RT correct total 1MA multiply by 3,4% 1CA simplification **OR/*OF*** 1RT correct total 1MA multiply by 3,4% 1CA simplification **NPR** (3)	D L2
5.1.5	Cans, pieces of a motor vehicles, household appliances; scrap metal **OR** any other product that includes metal / *Blikke, dele van 'n motorfiets, afvalmetaal* **OF** *enige ander produk wat metaal bevat.* ✓✓A	2A metal products that are recyclable (2)	D L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.1.6	Stacked bar graph **OR** Compound bar graph **OR** Bar graph *Saamgestelde staaf grafiek* **OF** *Stapel/balk grafiek* **OF** *Staaf grafiek* ✓✓A	2A type of graph (2)	D L1
5.1.7	Probability/*Waarskynlikheid* Other/*Ander* = 11,2% ✓RT ✓MA 1,7% + 1,6% + 2,3% + 2,9% = 8,5% $\frac{8,5}{11,2}$ ✓M = 0,7589285 ✓CA **OR/*OF*** ✓A ✓RT $1 - \frac{2,7}{11,2}$ ✓MA = 0,7589285 ✓CA	1RT correct values 1MA adding all values 1M dividing 1CA simplification **OR/*OF*** **CA from Question 5.1.3** 1RT correct values 1A for the number one 1MA subtracting 1CA simplification **NPR** (4)	P L2
5.2.1	10 ✓✓A	2A correct number (2)	D L1
5.2.2	Number of seats/*setels* ✓A 33 : 27 ✓M = 11 : 9 ✓CA	1A correct values 1M ratio in correct order 1CA simplified ratio Accept unit ratio or fractional form (3)	D L1
5.2.3	National Freedom Party / NFP *Nasionale Vryheidsparty/NVP/NFP* ✓✓RT	2RT reading from table (2)	D L1

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.4	 3A bars correctly drawn (3)		D L2
		[28]	





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