Platinum

Mathematical Literacy

Navigation pack

FET PHASE GRADE 10

Contents

Find us online

Pearson

We remain committed to support you and continue to provide great service to our valued partners in education.

Visit **za.pearson.com** for product information, educational news, access catalogues or to contact your Pearson key account manager to assist you on your teaching journey.

Classroom Solutions

Classroom Solutions was designed to help save you time, so you can spend more time getting creative about learning. Join a growing community of teachers and access free teaching resources for Grade R to 12, such as lesson plans, worksheets, videos, podcasts and more.

Register for free at **classroomsolutions.co.za**

Pearson eStore

Pearson offers the widest range of CAPS-approved content in South Africa, available in various eBook formats to suit you and your learners' needs.

Browse and purchase eBooks at **shop.pearson.co.za**

 Pearson

Dear Teacher

The National State of Disaster due to the COVID-19 pandemic has resulted in the disruption of Education in South Africa and the loss of valuable teaching time and disruption of the school calendar.

As a result of this, the DBE has created and released revised Annual Teaching Plans (ATPs) to assist schools and teachers in ensuring the 2021 school year is completed. The 2021 ATPs are based on the revised ATPs that were developed in 2020. It is important to note that fundamental and core topics are retained in the 2021 ATPs. Some of the strategies that have been used in the process of developing the 2021 DBE ATPs are:

- reduction of content covered in certain topics
- merging of topics
- deleting topics
- revising the assessment guidelines
- reduction in teaching time for certain topics
- resequencing of topics/concepts

At Pearson South Africa, we believe that education is the key to every individual's success. To ensure that despite the challenges, teachers and learners can meet all the necessary learning outcomes for the year, we have created the Navigation Pack, a free resource to support teachers and learners during this challenging time.

The Navigation Pack aims to summarise and highlight the changes in the 2021 DBE ATP and provide teachers and learners with worksheets that focus on impacted topics in the curriculum.

Due to resequencing of topics, the order of topics in the textbook that is currently used in the classroom may not be aligned to the new sequence of topics in the ATP. Pearson has included page numbers from one of our tried and tested series, Platinum, to guide the teacher and learners as they navigate through the textbook, with the 2021 ATP. The Navigation Pack has a set of assessments based on the Section 4 changes and the revised assessment guidelines.

Covid-19 safety guidelines for teachers and learners

Gatherings at school

Where schools are open for learning, it is up to management to take decisive action to ensure sites are not simultaneously used for other functions such as shelters or treatment units in order to reduce the risk.

Implement social distancing practices that may include:

- A staggered timetable, where teachers and learners do not arrive/leave at the same time for the beginning and end of the school day.
- Cancelling any community meetings/events such as assemblies, cake sales, market day, tuckshop, after-care classes, matric dance, Eisteddfod and other events.
- Cancelling any extra-mural activities such as ballet classes, swimming lessons, sport games, music class and other events that create a crowd gathering.
- Teaching and modeling creating space and avoiding unnecessary touching.
- Limiting movement and interaction between classes.
- Schools with an established feeding scheme plan are to ensure that hygiene and social distancing is always implemented. Teachers and staff members assisting with food distribution are to wear masks, sanitise prior to issuing food items and learners are to stand 1,5m apart in the queue.

Wear a mask at all times.

1. Restrooms/toilets

Hand washing

Washing hands with soap and water or using alcohol-based hand sanitisers is one of the most important ways to help everybody stay healthy at school. Critical to this is preparing and maintaining handwashing stations with soap and water at the toilet and in each classroom.

Teachers and learners should always wash their hands after:

- eating
- entering the classroom
- using the toilet
- blowing your nose or coughing
- touching tears, mucous, saliva, blood or sweat.

2. Premises and Classroom setting

When schools open, classroom settings should be altered in order to promote hygiene, safety and social distancing.

Changed classroom settings may include:

- Cleaning and disinfecting school buildings, classrooms and especially sanitation of facilities at least once a day, particularly surfaces that are touched by many people (railings, lunch tables, sports equipment, door and window handles, toys, teaching and learning tools etc.).
- Ensure the proper ventilation and fresh flow of air through classrooms.
- Providing learners with vital information about how to protect themselves by incorporating the importance of hygiene, handwashing and other measures of protecting themselves, into the lessons.
- Promoting best handwashing and hygiene practices and providing hygiene supplies.

- Prepare and maintain handwashing stations with soap and water, and if possible, place alcohol-based hand sanitisers in each classroom, at entrances and exits, and near lunchrooms and toilets.

- Ensure teachers and learners wear a mask at all times.

Social distancing

- Space the learners out in the classroom (or outdoors) – try to keep learners separated by a minimum of 1,5m.

- Create space for learners' desks to be at least 1,5m apart

- Learners are not to exceed 30 per class or 50% of original class size

- Learners should not share cups, eating utensils, or food

- Do not let learners eat items that fall on the floor or chew on pencils or other objects

- Avoid close contact, like shaking hands, hugging or kissing

3. Social behaviour

It is extremely vital during a pandemic that focus is not only directed towards optimal physical health and hygiene but finding ways to facilitate mental health support.

- Treat everybody with respect and empathy – no teasing about COVID-19.
- Encourage kindness towards each other and avoid any stereotyping when talking about the virus.
- Stay home if you have a temperature or are ill.
- Do not touch people who are ill, but be empathetic.

Wear a mask at all times.

How to use this Navigation Pack

Revised DBE Teaching Plan: Comprehensive summary of the CAPS topics according to the revised ATPs.

Navigation Plan: Link to the Platinum series, as well as additional resources in the Navigation Pack.

REVISED DBE ANNUAL TEACHING PLAN				NAVIGATION PLAN	
Themes	Topic	Unit	Time	Links to Platinum series and Pearson Navigation Pack	Page reference
WAVES, SOUND AND LIGHT	Electromagnetic radiation [9 hrs] *10	The nature of electromagnetic radiation	2 hrs	Plat LB Plat TG	Page 84–90 Page 46–48
		The electromagnetic spectrum	3 hrs		
		The electromagnetic radiation as particle – Photon	4 hrs	Navigation Pack: Targeted Worksheet 1	Page 15
	Consolidation and revision [16 hrs]		16 hrs		
HYDROSPHERE *11					
ASSESSMENT		End of year exam		Navigation Pack: Paper 1 Physics	Page 45
		End of year exam		Navigation Pack: Paper 2 Chemistry	Page 56

TOTAL HOURS = 25

*10 This topic has been moved from term 1 to term 4. This topic is on pages 84–90 in the Platinum LB, and pages 46–48 in the Platinum teacher's guide book.

*11 The whole topic has been removed.

Assessments for the Term as per the revised ATPs and the Section 4 amendments.

Link to a targeted worksheet in the Navigation Pack, that focus on impacted or challenging topics in the curriculum.

Footnotes provide any additional information.

Link to an exemplar assessment in the Navigation Pack, that was created with Section 4 and curriculum changes in mind.

Navigation Guide

Term 1

REVISED DBE ANNUAL TEACHING PLAN				NAVIGATION PLAN	
THEMES/TOPIC	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
Numbers and Calculations with numbers	Number formats: Decimal point/ comma; thousand separators Conversions between number formats	• Number separators with commas or spacing of three digits • Different time format conventions • Conversions between numbers e.g., 1 dozen = 12 units; 1 gross = 144 units • Positive and negative numbers (see unit 3 page 12 LB)	1,75 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 1	• Page 8–15 • Page 11–16
		• Operations with whole numbers and decimals with and without a calculator (BODMAS) • Use a calculator to find: square, cube, square root of a number • Operations with fractions	4,75 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 1	• Page 26–41 • Page 22–31
	Rounding, Ratio, Rates, Direct and Inverse proportion, Percentages	• Rounding-off: to a specified number of decimal places, to the nearest whole number, up or down	2,25 hours	• Platinum LB: • Platinum TG	• Page 18–23 • Page 20–21
		• Ratios: situations, formats and calculations	2,25 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 1	• Page 54–63 • Page 20–21
		• Rates: meaning, types and calculations	2,75 hours	• Platinum LB • Platinum TG	• Page 70–77 • Page 24–26
		• Percentage: notation and calculations; • Percentage increase and decrease calculations in contexts	4 hours	• Platinum LB • Platinum TG	• Page 78–87 • Page 25–30

Term 1

THEMES/TOPIC	REVISED DBE ANNUAL TEACHING PLAN			NAVIGATION PLAN	
	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
Patterns, relations and representations		• Constant, direct proportion and inverse proportion relationships. Tables with input and output values	4,5 hours	• Platinum LB • Platinum TG	• Page 106–109 • Page 38
		• Table with dependent and independent values • Equations • Graphs • Interpretation • Tables • Graphs (determine: dependent and independent values, zero values, min/max values, missing values) • Write a story from a graph or draw a graph from a story	6,25 hours	• Platinum LB • Platinum TG	• Page 120–139 • Page 42–48
Data handling [See Topic 6 Platinum LB]	Data handling	• Developing questions. • Collecting data	4,5 hours	• Platinum LB • Platinum TG	• Page 248–249 • Page 113–114
		• Classifying and organizing data	4,5 hours	• Platinum LB • Platinum TG	• Page 250–253 • Page 115–116

		• Summarising data
		  Mean
		  Median
		  Mode
		  Range
		• Analyse data represented by the above
			6 hours	• Platinum LB
				• Platinum TG
					• Page 262–267
					• Page 122–123

ASSESSMENTS		Term 1 Assignment (50 marks) Term 1 Test (50 marks)	Assignment: 1 hour Test: 1 hour	Term 1 Assignment Exemplar Term 1 Test Exemplar	

🕐 **TOTAL HOURS = 43,5**

Term 2

THEMES/TOPIC	REVISED DBE ANNUAL TEACHING PLAN			NAVIGATION PLAN	
	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
Finance	Financial documents	• Household bills • Shopping documents*1 • Banking documents • Household budget *2 • Terminology used in above document*3	5 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 2	• Page 142–147, 154 –159, 170–173 • Page 89–90, 59 -60
	Tariff system	• Municipal tariff • Telephone tariff • Transport tariff • Bank fees*4 • Compare two tariff systems • Calculate cost using tariff and /or formula • Draw and interpret graphs of various tariff systems	4 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 3	• Page 148–159, 168, 169 • Page 61 and 63

Measurement	Conversions	• Metric system
		  • Conversion using
		  • factors/ tables.
		  • Operations with numbers
		  • Multiplication and division by 10, 100, 1 000 without a calculator – See Platinum LB page 30.
		  [These are vital when converting metric units]
			3,5 hours	• Platinum LB
				
				• Platinum TG
					• Page 182 and 189
					• Page 51–55

	Measuring and estimating	• Measure and estimate:*5
		  • Length
		  • Distance
		  • Weight/mass
		  • Volume
		  • Temperature
		  • Time
		• Calculate costs of products and services
			Estimated at 5,25 hours	• Platinum LB
				
				• Platinum TG
				• Navigation Pack: Targeted worksheet 1
					• Page 190 –213, 221–225
					• Page 64–73

	REVISED DBE ANNUAL TEACHING PLAN			NAVIGATION PLAN	
THEMES/TOPIC	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
Maps, Plans and other Representations	Maps, Plans and other Representations	• Scale Use Scale in the form: 1:500 and bar scales to calculate actual distance and length from the given map/plan measurements	4 hours	• Platinum LB • Platinum TG	• Page 228–233 • Page 71–80

		• Maps
		  • Describe position of an object in relation to surrounding buildings
		  • Find location, Follow and develop directions
		  • Direction indicators (e.g., left, right, along, down up etc)
		  • House building numbering
		  • Numbering system used for sitting in sport stadiums
			5 hours	• Platinum LB
				• Platinum TG
					• Page 228–233
					• Page 71–80

Probability	Probability and events	• Expression of probability • Events and outcomes/results	4 hours	• Platinum LB • Platinum TG	• Page 272–275 • Page 81–82

	Prediction	• Relative frequency and theoretical probability of an event
		  • Tree diagrams
		  • Two-way tables
			5 hours	• Platinum LB
				• Platinum TG
					• Page 276–281
					• Page 82–87

ASSESSMENTS		Term 2 Assignment (50 marks) Term 2 Test (50 marks)	Assignment: 1 hour Test: 1 hour	Term 2 Assignment exemplar Term 2 Test exemplar	

🕐 TOTAL HOURS = 35,75

*[1] Shopping documents: Please use physical till slips from shops and stores.

*[2] Household budget: We can encourage learners to introduce physical budgets from their homes and show them how income and expenditures work for the smooth running of the home. [See Platinum LB page 154 – 159]

*[3] Introduce terms as teaching and learning takes place.

*[4] Use any other relevant financial document, for example, salary slips and fees brochures to enhance learning.

*[5] Practical use of measuring instruments will be necessary in this case.

Term 3

	REVISED DBE ANNUAL TEACHING PLAN			NAVIGATION PLAN	
THEMES/TOPIC	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
Finance	Income, expenditure, profit/loss, income- and-expenditure statements and budgets	• Perform calculations involving income, expenditure, profit/ loss • Identify fixed, variable and occasional income and expenditure values from financial documents. • Analyse and prepare income – and – expenditure statements and budgets	13,5 hours	• Platinum LB • Platinum TG	• Page 154–158 • Page 90–93
	Interest	• Distinguish between interest rate and interest. • Calculate interest and interest rate • Use simple and compound growth formulae and solve problems(including interest, hire purchase, inflation, population growth and other real life problems)	3,5 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 3	• Page 160–167 • Page 104 –108
	Taxation	• Determine VAT in the context of shop purchases, till slips and bills. • Calculate VAT inclusive and exclusive prices • Emphasize the implication of fluctuating foreign exchange rates	4 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 2	• Page 174–179 • Page 111–112
Measurement		• Calculate: • perimeter of rectangles, triangles and circles (quarter, semi and three-quarters) using formulae • area of rectangles, triangles and circles (quarter, semi and three-quarters) using formulae • volume • cost of products	13,5 hours	• Platinum LB • Platinum TG	• Page 182–189, 214–224 • Page 94–96

Term 3

	REVISED DBE ANNUAL TEACHING PLAN			NAVIGATION PLAN	
THEMES/TOPIC	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
Plans and other representations	Floor plans and design	• Understand floor plans and design: • Understand the symbol and notation used on plans • Describe what is being represented • Analyse layout of plan shown and suggest alternative layout option • Determine actual length on plans using measurements and given scale*6 • Determine quantity of material needed by using the plan's perimeter, area and volume calculations • Draw 2D floor plans for familiar structures	9 hours	• Platinum LB • Platinum TG	• Page 234–240 • Page 97–98
	Assembly diagrams	• Describe and interpret diagrams *7 • Calculate lengths	4,5 hours	• Platinum LB	• Page 238–240
	Models	• Packaging of cans and/or boxes for optimal use of space • Determine the most cost-effective way of packaging a number of cans and/or boxes		• Platinum LB • Platinum TG	• Page 242–243 • Page 99
ASSESSMENTS		Term 3 Test (50 marks)	Test: 1 hour	Term 3 Test Exemplar	

TOTAL HOURS = 48

*6 Practical use of measuring instruments will be necessary in this case.

*7 Use actual models for description and interpretations.

Pearson

Term 4

THEMES/TOPIC	TOPIC/UNIT	UNIT/CONTENT SPECIFIC CONCEPTS	TIME	LINKS TO PLATINUM SERIES AND PEARSON NAVIGATION PACK	PAGE REFERENCE
		REVISED DBE ANNUAL TEACHING PLAN		**NAVIGATION PLAN**	
Finance	Banking loans and investments	• Terminology • Determine bank charges for different bank account types. • Understand graphs from given bank charges.	4,5 hours	• Platinum LB • Platinum TG • Navigation Pack: Targeted worksheet 3	• Page 168–173 • Page 109–110

Data handling	Summarising data	• Revise summarising data.
		  • Mean
		  • Median
		  • Mode
		  • Range
		• Analyse data represented by mean, median, mode and range
			6 hours	• Platinum LB
				• Platinum TG
					• Page 262–267
					• Page 169–171

	Representing data	• Represent data using:
		  • Pie chart
		  • Histogram
		  • Single bar graph
		  • Line and
		  • broken line graph*8
			7,5 hours	• Platinum LB
				• Platinum TG
					• Page 254–261
					• Page 122–123

	Analysing data analysis	• Analyse data represented by the graphs done in previous week	6 hours	• Platinum LB	• Page 262–267
ASSESSMENTS		Final examination papers Paper 1: 75 marks (1 ½ Hour) Paper 2: 75 marks (1 ½ Hour)		Paper 1 Exam Exemplar Paper 2 Exam Exemplar	

🕐 **TOTAL HOURS = 24**

*8 Practical data representations in day to day life situations say in newspapers and other data sources may be used to enhance learning in this case

Targeted Worksheets

Targeted Worksheet 1

TARGETED WORKSHEET	TOPIC IN CAPS
1	Measurement
2	Financial documents
3	Finance

Topic: Measurement

Content summary

- Measurements are important in our everyday life for example, we measure medication, the amount of salt and sugar we take, the size of the room for the purpose of furniture and the amount of food we buy.
- Various instruments are used for measuring different quantities but we can also estimate. For example, we don't usually measure the salt we are adding to food but we can estimate what is enough for us to give us a good taste of food.
- A conversion factor is a number that tells us how many times a smaller unit fits into a larger one.
  - To convert smaller units into larger ones, we divide by the conversion factor.
  - To convert larger units into smaller ones, we multiply by the conversion factor.

$$\times$$

Larger units		Smaller units

$$\div$$
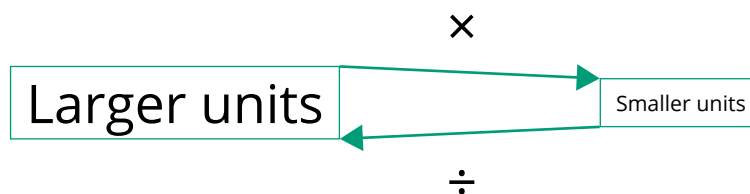
Topic: Measurement

Name:	Surname:

Question 1

1.1 Convert the following units as required.

1.1.1 15 cm into mm (2)

1.1.2 150 cm into m (2)

1.1.3 15 km into m (2)

1.1.4 3 ℓ into ml (2)

1.1.5 300 g into mg (2)

1.1.6 19 m into mm (2)

1.1.7 2 kg into g (2)

1.1.8 12 mm into cm (2)

1.2 The following table is used to convert units of measurement of weight.

To: From:	mg	g	kg	ton	oz.	lb.
Milligrams (mg)		÷ 1 000	÷ 1 000 000	÷ 1 000 000 000	÷ 0,02835	÷ 453 592
Grams (g)	× 1 000		÷ 1 000	÷ 1 000 000	÷ 28,35	÷ 453,6
Kilograms (kg)	× 1 000 000	× 1 000		÷ 1 000	÷ 0,02835	÷ 0,4536
Tonnes (ton)	× 1 000 000 000	× 1 000 000	× 1 000		÷ 0,00002835	÷ 0,0004536
Ounces (oz.)	× 0,02835	× 28,35	× 0,02835	× 0,00002835		÷ 16
Pounds (lb.)	× 453 592	× 453,6	× 0,4536	× 0,0004536	× 16	

1.2.1 Convert 13 lb. into kg. (2)

1.2.2 A can is said to have a net weight of 320 oz. What is its net weight in grams? (2)

1.2.3 How many pounds of sugar make up 730 ounces? (2)

1.3 The distance from Pretoria CBD to Johannesburg CBD is 60 km. What is the distance in miles?

> **1 mile = 1,61 km** (2)

1.4 Peter walks 1,7 km to the bus stop. He travels 60 miles on the bus and then gets a taxi to take him a further 1 400 m. Determine the total distance (in kilometres) he covers to get to his final destination. (4)

[28]

Targeted Worksheet 1

Question 2

Mandisa uses her kitchen oven for baking. She measures her ingredients with spoons and a cup. She uses the following table to estimate her measurements.

1 teaspoon = 5 ml	1 tablespoon = 15 ml	1 teacup = 250 ml	1 bottle = 1 litre
1 flat teaspoon = 5 g	1 flat tablespoon = 15 g	1 mug = 500 g	

She uses the following ingredients to make scones.

- 2 mugs flour
- $\frac{1}{2}$ mug sugar
- 2 flat teaspoons baking powder
- pinch salt
- 100 g butter
- 2 large eggs
- $\frac{3}{4}$ teacup milk

Mandisa mixes the ingredients well to form a dough. She rolls the dough and cuts out the scones before placing them on a baking tray. She bakes the scones at a temperature of 180 °C for 18 minutes. The recipe makes 15 scones.

2.1   If she wants to make only 5 scones, how much flour will she need?   (2)

2.2   How much milk (in millilitres) does she need to make 15 scones?   (2)

2.3   How many grams of baking powder does she need to make 90 scones?   (4)

2.4   Convert the baking temperature to Fahrenheit using the formula:

   °F = °C × 1,8 + 32°   (2)

2.5   Convert the baking time into hours.   (2)

2.6 Sometimes Mandisa's recipes give recommended baking temperatures in Fahrenheit. At what Celsius temperature must she set the oven to get a temperature of 220 °F? Use the formula:

°C = (°F – 32°) ÷ 1,8 (2)

[14]

Question 3

A housing complex needs to be fenced. The length of the fence required is 1 km and 400 m. The palisade fence needed costs R380 per 4 m length. Other costs involved include:

- 78 welding rods each costing R10
- R500 for electricity
- R300 per day for hiring the welding inverter
- Labour at R38 per metre of fence
- 1 litre paint per 28 m length palisade. A 5-litre tin of paint costs R380.

3.1 Convert 1 km and 400 m into metres. (2)

3.2 Calculate the number of pieces of palisade fencing material needed. (2)

3.3 Determine the cost of paint needed to paint the entire fence. (6)

3.4 The entire process of fencing will take 4 days to complete. Determine the total cost of erecting the fence around the complex. (10)

[20]

TOTAL: 62

Targeted Worksheet 2

Topic: Financial documents

Content summary

- Household bills are statements that we get in our homes, indicating the amount we need to pay for the services rendered to us.
- Household bills include telephone, electricity, water, refuse collection, etc.
- Household budgets give an indication of our earnings and the way we spend our money. The money we earn is referred to as the income and the way we use money to pay for a variety of items and services is referred to the expenditure.
- Shopping documents include till slips or receipts. They show us what items have been bought and the amount paid for each item. Many stores that issue slips pay VAT and add it as 15% of the value of the item.
- Banking documents include bank statements and loan agreements.

Topic: Financial documents

Name: _____   **Surname:** _____

Question 1

Mary bought a house in Mpumalanga. This is a copy of her landline phone invoice that she received at the end of the month.

1.1 For what period is the statement? **(1)**	
1.2 Mary has a balance for the previous month.	
1.2.1 What does she owe for the previous month? **(1)**	
1.2.2 What is the interest rate charged for the unpaid balance? **(2)**	
1.3 The current month consists of the opening balance from the previous month.	
1.3.1 How much is the opening balance? **(1)**	
1.3.2 Did Mary make a cash payment or EFT? Explain your answer. **(2)**	
1.4 In South Africa VAT is 15%.	
1.4.1 Show how the VAT amount was calculated. **(3)**	
1.4.2 Mary used 1 720 minutes. Use the invoice to determine the cost of 1 minute. **(2)**	

Ms. Mary Khumalo
12 Pancras St. Homestead Park
Johannesburg 2033

Summary of your account

Balance brought forward	R135,61
Payment Thank you	R130,60
Opening balance	R5,01
This invoice	R437,32

This invoice (March 2021)

Rental	R148,00
Usage	R289,32
Subtotal	**R437,32**
VAT	R65,60
Interest	R0,10
Total	**R503,12**

Payment remittance advice

Please pay as follows

Previous invoice 1c included in this invoice

This invoice: Please pay on or before 1 April 2021

Amount now payable	**R503,10**
Carried forward	R0,02
Amount due	R503,12

This is a tax invoice

Account number: 9211212184

Service ref: 332251887

Invoice March 2021

Due date: 01/04/2021

[12]

Pearson

Targeted Worksheet 2

Question 2

Mary bought some groceries for her home. Study the till slip she received and answer the following questions.

2.1	How many items did Mary purchase?	(1)
2.2	Give two reasons why a till slip should be issued.	(2)
2.3	What is the unit cost of yoghurt?	(2)
2.4	The supermarket allows people to buy small quantities of some items. If you were to buy only 4 eggs, how much would you pay?	(4)
2.5	Some items are VAT-rated and others are VAT-exempted	
2.5.1	Explain the term "VAT-exempted" in this context.	(2)
2.5.2	Determine the total cost of the VAT-exempted items.	(2)
2.5.3	Calculate the value of A, the 15% VAT amount.	(3)
2.6	It has been suggested that sugar tax should be added to all sugary drinks. The suggested percentage is 11%. VAT at a rate of 15% is also charged on sugar.	
2.6.1	What would the total tax percentage on sugar be?	(2)
2.6.2	How much would 1 kg of sugar cost if Government did not levy taxes on it?	(4)
2.6.3	Use relevant calculations to show whether milk is more expensive than juice or not.	(3)

[25]

HAPPY SHOPPERS

19 Nelly Street

Centurion

012 423 5523   15/03/2021

YOUR RECEIPT

3 × 1 kg Sugar	R57,00
6 milk* × 1 L	R74,00
3 Yoghurt (500 g)	R99,00
4 30's Eggs*	R189,00
500 g raisins	R29,00
2 × 10 kg Cake flour	R194,00
3 Juice @ 2L	R105,00
5L cooking oil	R98,45
500 g salt*	R12,00
VAT @ 15%	**A**
TOTAL	**857,45**

THANK YOU, CALL AGAIN

* VAT exempted

Question 3

The following bank statement is provided to a client. Study the statement and answer the questions that follow.

Steven Ngcobo, Unit 12, 5th Street, Homestead Park 2033		PEOPLE'S BANK CURRENT ACCOUNT: 92595678910 09/08/2019	
ACCOUNT STATEMENT STATEMENT PERIOD: 01/07/2019 – 31/08/2019			
Date	**Transaction description**	**Amount**	**Balance**
01/07/2019	Opening balance		2 300,00
07/07/2019	Cash deposit	8 200,00	10 500,00
09/07/2019	Cash withdrawal at ATM	4 000,00 –	5 500,00
09/07/2019	Transaction charge (fixed)	6,50–	5 493,50
14/07/2019	Cash withdrawal on counter	4 000,00–	1 493,00
14/07/2019	Transaction charge	105,00–	1 398,00
21/07/2019	Salary deposit	13 500,00	**A**
21/07/2019	Administration fees	125,00–	14 773,00
05/08/2019	Cash withdrawal on counter	13 000,00–	1 773,00
05/08/2019	Transaction charge	247,00–	1 526,00
13/08/2019	EFT transfer to Delicious Meal	1 400,00–	126,00
31/08/2019	Salary deposit	13 500,00	13 626,00
31/08/2019	Closing balance		13 626,00

3.1   What is the name of the account holder? (1)

3.2   What type of account is shown in the statement? (1)

3.3   For how many months is the statement? (1)

3.4   On what date was the first deposit made? How much was deposited into the account? (2)

3.5   If the account holder withdrew R2 400 on 02/09/2019 over the counter, what was the new balance? (4)

[9]

Targeted Worksheet 2

Question 4

Pinkie works in Florida. As a mother of 3 children, she earns a basic monthly salary of R17 500 and a weekly transport allowance of R410. She, her husband and children are members of a medical aid fund. The children go to a private school. The following table shows her expenditure for a month. Study the table and answer the questions that follow.

Item	Amount (R)
School fees (per month per child)	800
Groceries	1 600
Rent	4 200
Electricity and water	1 100
Entertainment	900
Savings (15% of her earnings)	**Q**
Clothing and shoes	2 700
Fuel	1 200
Miscellaneous expenses	1 900
TOTAL EXPENDITURE	

4.1   Calculate Pinkie's total monthly income.   (2)

4.2   The medical aid contribution is deducted directly from her total salary.
       The deductions are as follows.

Main member: R290	First additional member: R290	Other members: R210 each

Government tax is also deducted from her total income. The amount deducted is R2 120.

4.2.1   Calculate the total medical aid contribution amount deducted.   (3)

4.2.2   How much in total is deducted from her income?   (2)

4.2.3   Determine the amount that remains after the medical aid contribution and tax
         are deducted.   (2)

4.3   Pinkie spends the remaining amount of her income as illustrated in the above table.
       Determine the value of Q, the amount Pinkie saves.   (2)

4.4   Pinkie says her expenditure is good enough because she does not spend more than
       she earns. Justify her claim using relevant calculations of her income and expenses.   (5)

Topic: Finance

Content summary

- Interest is the extra money added to an investment or the amount of money that we borrow.
- Interest rate is the percentage used to calculate interest.
- Simple interest is calculated only on the initial amount (principal).
- Compound interest is calculated on the principal and on the interest from the previous term.

Worked example 1

Tsatsi invested R12 000 in her account. After 2 years, her investment had grown to R13 200.

1 How much interest was added over the two years?

2 What is the annual interest?

3 Determine the annual interest rate.

4 Determine the monthly interest rate.

Solution

1 Interest added = R13 200 – R12 000 = R1 200

2 Annual interest = R1 200 ÷ 2 years = R600

3 Annual interest rate = $\frac{\text{Annual interest}}{\text{Principal amount}} \times 100\% = \frac{\text{R600}}{\text{R12 000}} \times 100\% = 5\%$

4 Monthly interest rate = $\frac{\text{Annual interest rate}}{\text{12 months}} = \frac{5\%}{12} \approx 0{,}42\%$

Worked example 2

Jane needs to take a loan of R10 000 from the bank. She wants to pay back within 2 years. The annual interest rate is 10%. She wants to get the best option. Use relevant calculations to help her to decide on the better option.

Solution:

Simple interest option:

Principal = R10 000

Total amount = Principal + Interest = R10 000 + $\frac{10}{100}$ × R10 000 × 2 years = R12 000

Compound interest option:

After the first year:

Amount = Principal + Interest = R10 000 + $\frac{10}{100}$ × R10 000 = R11 000

After the second year:

Amount = Principal + Interest = R11 000 + $\frac{10}{100}$ × R11 000 = R12 100

The simple interest option will be a better option for her because she will pay R100 less.

Targeted Worksheet 3

Topic: Finance

Name: Surname:

Question 1

Mandy bought a cellphone on contract from a cellphone store. The cash price of the cellphone is R5 000. She will pay R390 per month for 24 months. Her contract allocates her airtime of R100 per month.

1.1 What is her monthly payment for the handset only?   (2)

1.2 How much in total will she pay for the handset only over the 24 months?   (2)

1.3 What is the interest added over the 24 months?   (2)

1.4 Calculate the annual simple interest rate.   (3)

[9]

Question 2

Thabo invested R15 000 in a fixed deposit account. The bank adds simple interest at a rate of 6% per annum.

2.1 Calculate the interest that will be added each year.   (2)

2.2 How much will be available in his account after 2 years?   (3)

2.3 The manager told him that he would have a better deal if he had chosen 5% interest rate compounded annually. Justify or refute this claim using relevant calculations.   (7)

[12]

Question 3

Pinkie wants to invest R12 000. The interest rate offered by the bank is 5% per annum. How much will she have in her account after 3 years if:

3.1 simple interest is added   (3)

3.2 interest is compounded annually?   (6)

[9]

TOTAL: 30

Targeted Worksheet 1 Answers

Question 1

1.1.1 15 cm = 15 × 10 ✓
       = 150 mm ✓ (2)

1.1.2 150 cm = 150 ÷ 100 ✓
       = 1,5 m ✓ (2)

1.1.3 15 km = 15 × 1 000 ✓
       = 15 000 m ✓ (2)

1.1.4 3 ℓ = 3 × 1 000 ✓
       = 3 000 ml ✓ (2)

1.1.5 300 g = 300 × 1 000 ✓
       = 300 000 mg ✓ (2)

1.1.6 19 m = 19 × 1 000 ✓
       = 19 000 mm ✓ (2)

1.1.7 2 kg = 2 × 1 000 ✓
       = 2 000 g ✓ (2)

1.1.8 12 mm = 12 ÷ 10 ✓
       = 0,12 cm ✓ (2)

1.2.1 13 lb. = 13 × 0,4536 ✓
       = 5.8968 ✓ (2)

1.2.2 320 oz. = 320 × 28,35 ✓
       = 9 072 g ✓ (2)

1.2.3 730 oz. = 730 ÷ 16 ✓
       ≈ 45,63 lb. ✓ (2)

1.3 60 km = 60 ÷ 1,61 ✓
       ≈ 37,27 miles ✓ (2)

1.4 It is important to ensure that all units are the same before we add. In this case we convert to kilometres, since it is the requirement for our answer.
Total distance = 1, 7 km + 60 miles + 1400 m
60 miles = 60 × 1,61 km = 96,6 km ✓
1 400 m = 1 400 ÷ 1 000 = 1,4 km ✓
Total distance = 1,7 km + 96,6 km + 1,4 km ✓
       = 99,7 km ✓ (4)

[28]

Question 2

2.1 15 scones require 2 mugs of flour
1 scone requires $\frac{2}{15}$
5 scones require $\frac{2}{15} \times 5$ ✓
= $\frac{2}{3}$ of a mug ✓ (2)

Targeted Worksheet 1 Answers

2.2   1 teacup = 250 ml
$\frac{3}{4}$ teacup = $\frac{3}{4}$ × 250 ml ✓
= 187,5 ml ✓   (2)

2.3   2 flat teaspoons 2 × 5 g = 10 g ✓
15 scones require 10 g of baking powder
1 scone requires $\frac{10}{15}$ ✓
90 scones require $\frac{10}{15}$ × 90 ✓
= 60 g of baking powder ✓   (4)

2.4   °F = °C × 1,8 + 32°
= 180 °C × 1,8 + 32° ✓
= 356 °F ✓   (2)

2.5   18 minutes = 18 ÷ 60 ✓
= 0,3 hours ✓   (2)

2.6   °C = (°F – 32°) ÷ 1,8
= (220 °F – 32°) ÷ 1,8 ✓
= 104,44 °C ✓   (2)

                                                                                        [14]

Question 3

3.1   1 km and 400 m = (1 × 1 000 m) + 400 m ✓
= 1 400 m ✓   (2)

3.2   Number of pieces = 1 400 ÷ 4 m ✓
= 350 pieces ✓   (2)

3.3   Litres of paint needed = 1 400 ÷ 28 = 50 ℓ ✓✓
Number of tins = 50 ℓ ÷ 5 ℓ = 10 tins ✓✓
Cost of paint = R380 × 10 tins = R3 800 ✓✓   (6)

3.4   Welding rods = R10 × 78 pieces = R780 ✓✓
Palisades = R380 × 350 pieces = R133 000 ✓✓
Electricity = R500
Inverter = R300 × 4 days = R1 200 ✓✓
Labour = R38 × 1 400 m = R53 200 ✓✓
Paint = R3 800
Total = R780 + R500 + R1 200 + R53 200 + R3 800 + R133 000 = R192 480 ✓✓   (10)

                                                                                        [20]

                                                                      TOTAL: 62

Targeted Worksheet 2 Answers

Question 1

1.1   March 2021 ✔   (1)

1.2.1   R135,61 ✔   (1)

1.2.2   Interest = $\frac{R0,10}{R5,01} \times 100\%$ ✔✔

         = 2% per month   (2)

1.3.1   R5,01 ✔   (1)

1.3.2   Mary made a cash payment ✔ because the amount that is not legal tender was not paid.
         It was carried forward. ✔   (2)

1.4.1   VAT = $\frac{15}{100} \times$ R437,32 ✔✔

         = R65,60 ✔   (3)

1.4.2   Cost per minute = $\frac{R289,32}{1\ 720}$ ✔ = R0,17/minute ✔   (2)

                                                                                                      [12]

Question 2

2.1   24 items✔   (1)

2.2   For proof of purchase from a specific store. ✔

         To show us how we have spent on specific items. ✔   (2)

2.3   Unit price yoghurt = R99 ÷ 3 ✔

                = R33 ✔   (2)

2.4   4 trays in 30's = 4 × 30 eggs

                = 120 eggs ✔

         120 eggs cost R189

         1 egg costs = $\frac{R189}{120}$ ✔

         4 eggs cost = $\frac{R189}{120} \times 4$ ✔

                = R6,30 ✔   (4)

2.5.1   VAT-exempted means that VAT is not charged on the item. ✔✔ (2)

2.5.2   VAT-exempted = R74 + R189 + R12 ✔

                = R275 ✔   (2)

2.5.3   Cost of VAT-rated items:

         R857,45 – R275 = 582,45 ✔

         VAT = $\frac{15}{100} \times$ R582,45 ✔

         A = R87,37✔   (3)

2.6.1   Total tax percentage = 11% + 15% ✔

                = 26%✔   (2)

2.6.2   1 kg sugar = R57 ÷ 3 kg ✔

                = R19✔

         Sugar without tax = $\frac{100}{126} \times$ R19 ✔

                = R15,08✔   (4)

Targeted Worksheet 2 Answers

2.6.3 1 litre milk = R74 ÷ 6

= R12,33 ✓

6 litre juice cost R105

1 litre juice = R105 ÷ 6

= R17,50 ✓

Milk is R5,17 cheaper than juice. ✓ (3)

[25]

Question 3

3.1 Steven Ngcobo ✓ (1)
3.2 Current account ✓ (1)
3.3 2 months ✓ (1)
3.4 Date: 07/07/2019 ✓

Amount = R8 200✓ (2)
3.5 Balance on 31/08/2019 = R13 626

Amount withdrawn = R2 400 ✓

Charge = R105 ✓

Total = R2 400 + R105

= R2 505 ✓

Balance after withdrawal = R13 626 – R2 505

= R11 121✓ (4)

[9]

Question 4

4.1 Monthly income = R17 500 + R410 × 4 ✓

= R19 140 ✓ (2)

4.2.1 Medical Aid:

(R290 × 2) ✓ + (R210 × 3) ✓ = R1 210 ✓ (3)

4.2.2 Total deducted = R1 210 + R2 120 ✓

= R3 330 ✓ (2)

4.2.3 Amount = R19 140 – R3 330✓

= R 15 810 ✓ (2)

4.3 Q = 15% × R15 810 ✓

= R2 371,50 ✓ (2)

4.4 Total expenditure:

(R800 × 3) + R1 600 + R4 200 + R1 100 + R900 + R2 371,50 + R2 700 + R1 200 + R1 900

= R12 571,50 ✓✓

Balance = R15 810 – R12 571,50 ✓

= R3 238,50 ✓

Pinkie is right. Her expenditure is lower than her income. ✓ (5)

[16]

TOTAL : 62

Targeted Worksheet 3 Answers

Question 1

1.1 Monthly payment for the handset

= R390 – R100✓

= R290✓ (2)

1.2 Total payment = R290 × 24 months ✓

= R6 960 ✓ (2)

1.3 Interest added = R6 960 – R5 000 ✓

= R1 960 ✓ (2)

1.4 Annual interest = R1 960 ÷ 2 years

= R980 ✓

Annual interest rate = $\frac{R980}{R5\,000}$ × 100% ✓

= 19,6% ✓ (3)

[9]

Question 2

2.1 Interest per year = $\frac{6}{100}$ × R15 000✓ = R900 ✓ (2)

2.2 Amount added in his account in 2 years

R900 × 2 years ✓ = R1 800 ✓

Available amount = 15000 +1800 = R16 800✓ (3)

2.3 Total amount with simple interest at 6%:

= R15 000 + R1 800✓ = R16 800✓

Compound interest at 5%:

Amount after 1 year:

R15 000 + $\frac{5}{100}$ × R15 000✓ = R15 750✓

Amount after 2 years:

R15 750 + $\frac{5}{100}$ × R15 750✓ = R16 537,50✓

The simple interest rate is better because of the higher interest rate. ✓ (7)

[12]

Question 3

3.1 Principal = R12 000

Total amount = Principal + Interest

= R12 000 + $\frac{5}{100}$ × R12 000 × 3 years ✓✓

= R13 800 ✓ (3)

Targeted Worksheet 3 Answers

3.2   After the first year:

Amount = Principal + Interest

$$= R12\ 000 + \frac{5}{100} \times R12\ 000 ✓$$

$$= R12\ 600 ✓$$

After the second year:

Amount = Principal + Interest

$$= R12\ 600 + \frac{5}{100} \times R12\ 600 ✓$$

$$= R13\ 230 ✓$$

After the third year:

Amount = Principal + Interest

$$= R13\ 320 + \frac{5}{100} \times R13\ 320 ✓$$

$$= R13\ 891,50 ✓$$ (6)

[9]

TOTAL: 30

Assignments

Assignment 1

Duration: 1 hour Total marks: 50

Assignment 1

Question 1

The Beefs Rugby Team and the Huge Guys Rugby team played in a tournament in November 2017. The match was in one of the rugby stadiums in Cape Town. The organisers had the following information in one of their files:

- Each of the two teams had 15 players and 8 substitutes.
- All players spent 4 nights in the stadium's hotel.
- The organisers paid R1 300 per player per night for accommodation and meals.
- The team captain of the Beefs was in room 407 and the captain of Huge Guys was in 408.
- The match kicked off on the 12th day of the month, at 15h45
- The number of people who attended was 72 525 and the ratio of males to females was 3:2.
- Each person paid an entrance fee of R100

At the end of the match, the following scores were recorded:

Scores recorded by the Beefs and Huge Guys rugby teams

Team	Beefs	Huge Guys
Tries	5	4
Penalties	5	7
Conversions	12	14

Point allocation

Try = 5 points	Penalty = 3 points	Conversion = 2 points

1.1 Write:

1.1.1 the date the match was played (in the format YYYYMMDD) (2)

1.1.2 the time the match kicked off in the 12-hour format. (1)

1.2 Describe in words, the room number of the team captain for the Huge guys. (2)

1.3 Determine the actual number of men and women who watched the match. (4)

Assignment 1

1.4   Calculate:

1.4.1   the amount of money that was paid at the hotel for accommodation and meals of all the players for 4 nights.   (3)

1.4.2   the total amount of money that was collected as entrance fees from all the spectators who watched the match.   (3)

1.5   Write in words, the total amount of money collected as entrance fees.   (2)

1.6   Calculate the scores of each team to determine the team that won the match.   (4)

[21]

Question 2

Nomsa makes delicious quarter-loaves of bread stuffed with chips and beef. To cut her costs, she makes the bread herself, using the following ingredients:

•   3,5 kg flour
•   30 g salt
•   0,5 kg sugar
•   2 cups water
•   1 kg baking fat

She bakes the bread at a temperature of 210 °C.
The recipe makes 10 loaves of bread, each weighing 500 g.

2.1   Write the flour, sugar and baking fat as a ratio in simplified form.   (3)

2.2   To make 25 loaves of bread,

2.2.1   how much flour would Nomsa need   (3)

2.2.2   how many quarter-loaves could she make from them?   (3)

2.3   Nomsa sells each quarter-loaf stuffed with chips for R12. She calculates the amount of money she must receive from her sales assistant, using the following table.

Table showing Nomsa's income from different numbers of quarter-loaves sold

Number of quarter-loaves	2	15	30	B	60	80
Amount (R)	24	A	360	480	720	960

2.3.1   Determine the constant variable in this relationship.   (1)

2.3.2   Calculate the values of A and B in the table above.   (4)

2.3.3   Use the grid in ANSWER SHEET 1 to draw a line graph of Nomsa's income using the above table.   (5)

2.3.4   Describe the relationship between the number of quarter-loaves of bread sold and the amount received.   (2)

[21]

Assignment 1

Question 3

Every month-end, Nomsa gets a large number of customers. She therefore employs other people to assist her to make the loaves of bread, cut them into quarters and stuff chips and beef in them. The graph below shows the relationship between the number of workers and the time taken to finish making 1 000 quarter-loaves.

A graph of the relationship between the number of workers and time taken to make 1 000 quarter loaves

Time taken (y-axis), *Number of workers* (x-axis)
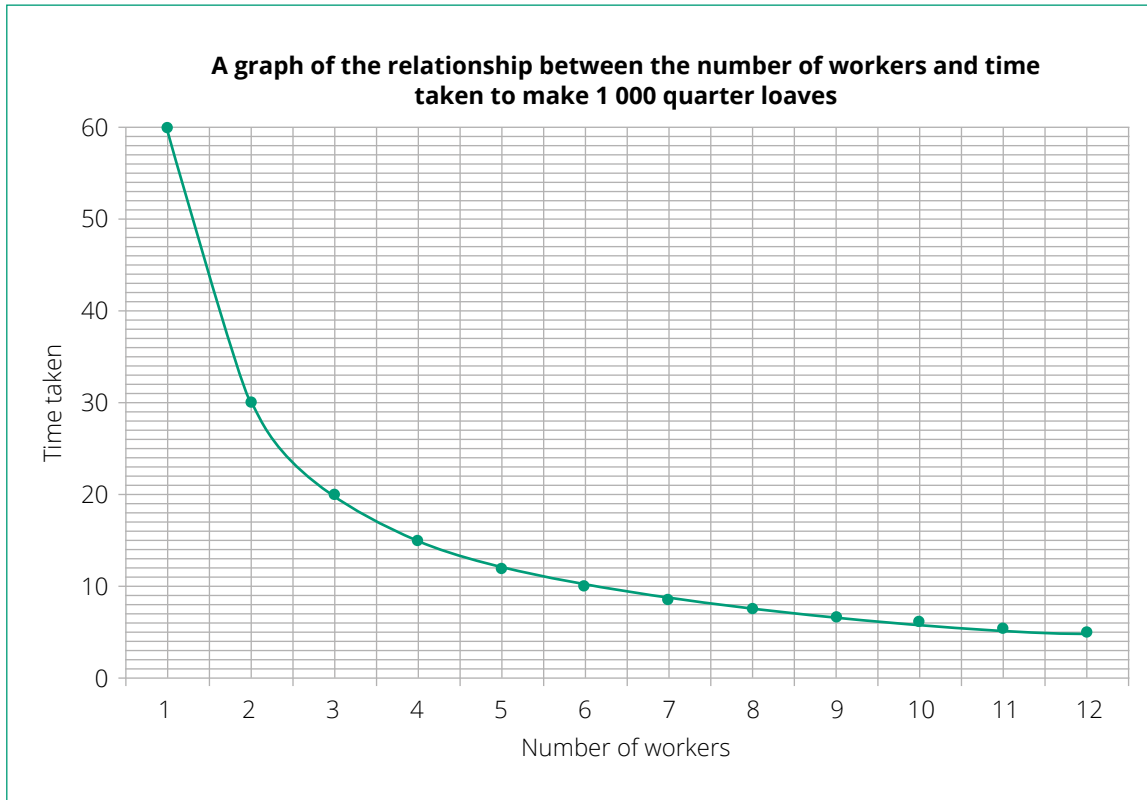
3.1   State the dependent and independent variables.   (2)

3.2   Determine:

3.2.1   the number of workers that would finish making the loaves in four hours.   (2)

3.2.2   the time, in hours, that 12 workers would take to finish the quarter-loaves   (2)

3.3   According to the graph, how many workers are required to make the 1 000 quarter-loaves of stuffed bread in 6 hours?   (2)

[8]

TOTAL: 50

ANSWER SHEET 1

Name: _____   **Surname:** _____

Grade: _____

For Question 2.3.3

A graph of the relationship between the number of quater-loaves and amount received

X-axis: Number of quater-loaves (0 to 80)
Y-axis: Amount in Rand (0 to 960)
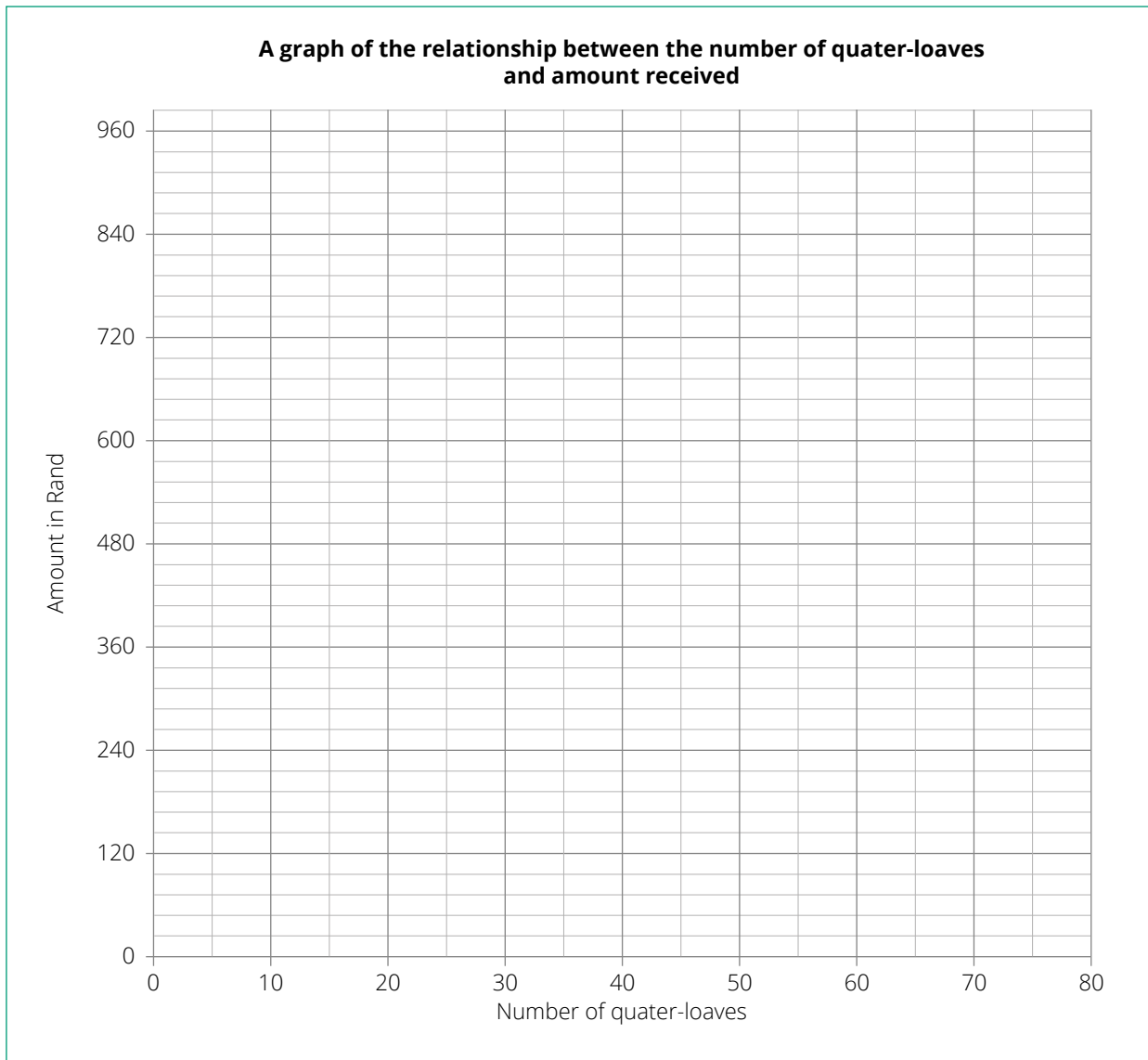
Assignment 2

Duration: 1 hour Total marks: 50

Assignment 2

> ## Instructions
> 1. Number your work according to the numbering system used in the question paper.
> 2. Show all calculations to be able to earn more marks.
> 3. Write all your answers in ink. Leave a line before writing a solution to the next question.
> 4. Round off the final answers appropriately according to the context, unless otherwise stated.
> 5. Please use the following answer sheets:
>   • ANSWER SHEET 1 for Question 1.3.1.
>   • ANSWER SHEET 2 for Question 1.4.1.

Question 1

1.1   Mrs Ncube is a teacher at Umhlanga Girls' High School and has two school-going children. She is paid a net annual salary of R208 984,62 and a monthly housing subsidy of R900.

1.1.1 Determine Mrs Ncube's monthly salary.   (2)

1.1.2 What is her total income from her teaching job?   (2)

1.2   Mrs Ncube's monthly budget is shown in the table below. Study the table and answer the questions that follow.

Item	Amount (R)
School fees (per month per child)	800
Groceries	1 600
Rent	4 200
Electricity, water and water	1 100
Entertainment	700
Savings	A
Clothing and shoes	1 400
Fuel	1 200
Miscellaneous expenses	1 500
TOTAL	B

1.2.1 Mrs Ncube's saves 25% of her total monthly income from her employment. Determine the value of A, her monthly saving.   (2)

1.2.2 Calculate B, Mrs Ncube's total monthly expenses before she donates to charity.   (3)

1.2.3 After all her expenses, Mrs Ncube donates the balance to charity at her community church. Determine the amount she donates to charity.   (2)

Assignment 2

1.3 Mrs Ncube uses a pre-paid meter for electricity; her payment depends on the amount she uses. Her water usage for the month of September 2020 is shown in the table below. Study the table and answer the questions that follow.

Usage	Description
Kitchen activities	80 ℓ per day
Flushing toilet	10 ℓ per flush, 8 times a day
Showering	Twice per person per day, using 30 ℓ per shower
Laundry	Twice a week, using 75 ℓ per wash
Washing car	Once a week ,using 50 ℓ per wash
Watering garden	Once a day, using 50 ℓ per watering session

1.3.1 Complete the table in ANSWER SHEET 1, filling in the water used per category. (7)

1.3.2 How many kilolitres of water did Mrs Ncube's family use in September 2020? (3)

1.4 The municipality where the Ncubes reside uses the following tariff table to work out the payment for water used. Study the table and answer the questions that follow.

MUNICIPALITY WATER TARIFFS

Block	Volume	Water rates (R)
1	0 kℓ – 6 kℓ	Free
2	>6 kℓ – 10 kℓ	7,20
3	>10 kℓ – 15 kℓ	13,08
4	>15 kℓ – 20 kℓ	19,66
5	>20 kℓ – 30 kℓ	22,13
6	>30 kℓ – 40 kℓ	25,91
7	Above 40 kℓ	32,17
All rates are exclusive of VAT (15%)		

1.4.1 Use the water tariff table above to complete the table in ANSWER SHEET 2 showing the amount Mrs Ncube's family had to pay for water used (excluding VAT). (4)

1.4.2 What is the total amount payable for water and sewage including 15% VAT if sewage is charged 3 times more than the water used? (4)

1.4.3 How much was spent on electricity during the month of September 2020? (2)

[31]

Assignment 2

Question 2

Mrs Nkosi also bakes scones to boost her income. She uses the following ingredients to make 12 scones.

- 750 g cake flour
- $\frac{3}{4}$ cup sugar
- 30 g baking powder
- pinch salt
- 125 g margarine
- 2 large eggs

The baking temperature is specified as 180°C.

2.1   Mrs Nkosi uses a cup to measure the ingredients because she does not have a kitchen scale. A standard cup of flour is 250 g and that of sugar is 275 g.

2.1.1   How many cups of cake flour make up 750 g?   (2)

2.1.2   How many full cups of sugar make up a 5 kg bag of sugar?   (3)

2.1.3   How much margarine (in grams) is needed to make 60 scones?   (2)

2.2   The stove Mrs Nkosi uses has units indicated in Fahrenheit. (°F). Convert the baking temperature into Fahrenheit using the formula: °F = °C × 1,8 + 32°   (2)

2.3   Mrs Nkosi does her shopping in a nearby supermarket. One of her old till slips is shown below. Study the slip and use it to answer the questions.

```
BIGWAY SUPER SHOPPERS
    56 Nelson Mandela Drive
        Pretoria Central
012 343 1123          20/09/2020
        YOUR RECEIPT

2 × 0,5 kg salt*              R22,00
5 milk* × 1 L                R60,00
2 margarine (500 g)          R71,00
2 30's eggs*                R114,00
500 g raisins                R27,00
12,5 kg cake flour          R119,00
5 kg brown sugar             R42,00
2L cooking oil               R36,45
500 g baking powder          R34,00
VAT @ 15%                    R48,78,
TOTAL                     ...........
    THANK YOU, CALL AGAIN

* VAT exempted
```

2.3.1   On what date were the items bought?   (1)

2.3.2   Identify the items on the slip that are free of VAT?   (2)

2.3.3   The total amount payable includes 15% VAT. What is the cost of all the items before VAT is added?   (3)

2.3.4   What is the cost per kilogram of cake flour?   (2)

2.3.5   Write the amount she spent on milk and the amount spent on brown sugar as a ratio in simplified form.   (2)

[19]

TOTAL: 50

Assignment 2

ANSWER SHEET 1

Name: _____   Surname: _____

Grade: _____

For Question 1.3.1

Usage	Total amount of water used (ℓ)
Kitchen activities	
Flushing toilet	
Showering	
Laundry	
Washing car	
Watering garden	
TOTAL	

Assignment 2

ANSWER SHEET 2

Name: _____   Surname: _____

Grade: _____

For Question 1.4.1

Block	Volume used (ℓ)	Amount (R)
1		
2		
3		
4		
5		
TOTAL		

Assignment 1 Memorandum
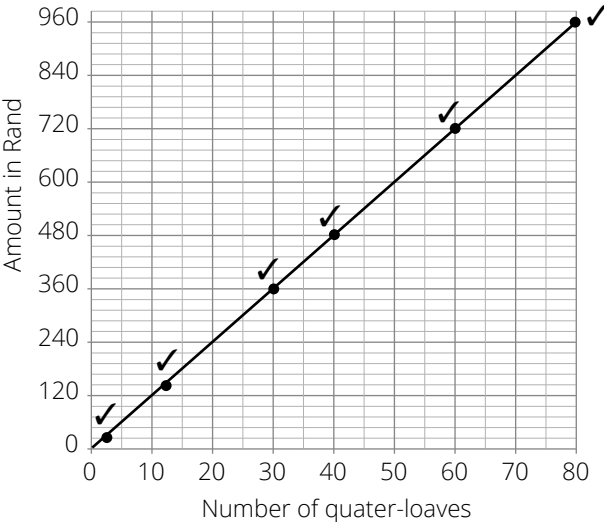
Duration: 1 hour Total marks: 50

Assignment 1 Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1				
	SOLUTION	MARKS	EXPLANATION	TL
1.1	1.1.1 2017/11/12 or 2017. 11. 12 or 20171112 ✓✓	(2)	2O Any correct order	1
	1.1.2 3: 45 pm ✓	(1)	1O Correct time	1
1.2	Room number 8 ✓ on the fourth floor ✓	(2)	1O room 1O floor	1

1.3	Total number of parts of men and women = 3 + 2
	                                    = 5 parts ✓
	
	Number of people per part = 72 525 ÷ 5
	                                    = 14 505 people ✓
	Number of men = 14 505 × 3 = 43 515 men ✓
	Number of women = 14 505 × 2 = 29 010 women ✓
		(4)	1CA number of parts
			1A number of people
			1A men
			1A women
				3

1.4	1.4.1 Number of players = (15 + 8) × 2 = 46 players ✓
	        Amount of money = R1 300 × 46 × 4 ✓
	                        = R239 200 ✓
		(3)	1CA multiplying by 2.
			1CA multiplying by 46
			1A answer
				2

	1.4.2 Amount collected = R100 × 72 525 ✓✓ = R7 252 500 ✓	(3)	2MA multiplying by 100. 1A answer	2
1.5	Seven million, two hundred and fifty-two thousand, five hundred rand✓✓A	(2)	2CA correct statement	1
1.6	The Beefs Scores = (5 × 5) + (2 × 12) + (3 × 5) = 64 points✓ Huge Guys Scores = (4 × 5) + (2 × 14) + (3 × 7) = 69 points✓ The Huge Guys won the match as they had more points✓✓	(4)	1MA calculating points for Beefs 1MA calculating points for Huge Guys. 2O winner	4
				[21]

QUESTION 2				
	SOLUTION	MARKS	EXPLANATION	TL
2.1	3,5 kg : 0,5 kg : 1 kg ✓ = $\frac{3,5}{0,5} : \frac{0,5}{0,5} : \frac{1}{0,5}$ ✓ = 7:1:2 ✓	(3)	1A ratio 1M dividing by 0,5 1S simplifying	2

Assignment 1 Memorandum

2.2	2.2.1	10 loaves require 3,5 kg 1 loaf requires $\frac{3,5}{10}$ kg ✓ 25 loaves require $\frac{3,5}{10} \times 25$ kg ✓ = 8,75 kg ✓	(3)	1M dividing by 10 1M multiplying by 25. 1CA amount in kg	2
		Number of quarter loaves = 25 ÷ $\frac{1}{4}$ ✓ = 25 kg × $\frac{4}{1}$ ✓ = 100 quarter-loaves ✓	(3)	1M dividing by ¼ 1M multiplying by ¼ 1CA answer	2
2.3	2.3.1	The cost per quarter-loaf or R12✓	(1)	1O correct value	1
	2.3.2	A = R12 × 15 quarter-loaves = R180 ✓✓ B = R480 ÷ R12 = 40 quarter-loaves ✓✓	(4)	2A correct values ANSWER ONLY FULL MARKS	2
	2.3.3	**A graph of the relationship between the number of quater-loaves and amount received** 	(5)	3A any three correctly plotted points 2CA drawing line	2
	2.3.4	As the number of quarter-loaves increases, the amount of money received also increases✓✓	(2)	2A Correct description	1
					[21]

QUESTION 3				
	SOLUTION	**MARKS**	**EXPLANATION**	**TL**
3.1	Dependent variable – time taken ✓ Independent variable – number of workers ✓	(2)	1CA dependent variable 1CA independent variable	2
3.2	3.2.1 15 workers ✓✓	(2)	2RG correct answer 1P Missing units	1
	3.2.2 5 hours ✓✓	(2)	2RG correct answer 1P Missing units	1
3.3	10 workers ✓✓	(2)	2RG correct answer 1P Missing units	1
				[8]

TOTAL: 50

Assignment 2 Memorandum

Duration: 1 hour Total marks: 50

Assignment 2 Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1

		SOLUTION	MARKS	EXPLANATION	TL
1.1	1.1.1	Monthly salary = R208 984,62 ÷ 12 ✔ = R17 415,39 ✔	(2)	1M dividing by 12 1A correct answer	2
	1.1.2	Total income = R17 415,39 + R900 ✔ = R18 315,39 ✔	(2)	1M adding 1A correct answer	2
1.2	1.2.1	A = $\frac{25}{100}$ × R18 315,39 ✔ = R4 578,85 ✔	(2)	1M multiplying by 25% or $\frac{25}{100}$ 1A correct answer	2
	1.2.2	Total monthly expenses (B) (R800 × 2) + 1600 + R4 200 + R1 100 + R700 + R4 578,85 + R1 400 + R1 200 + R1 500 ✔✔ = R17 878,85 ✔	(3)	2M addition 1A correct sum	2
	1.2.3	Charity = R18 315,39 – R17 878,85 ✔ = R436,54 ✔	(2)	1M subtracting 1A correct answer	2
1.3	1.3.1	(ANSWER SHEET 1) 	Usage	Total amount of water used
---	---
Kitchen activities	80 ℓ × 30 days = 2 400 ℓ ✔
Flushing toilet	10 ℓ × 8 × 30 days = 2 400 ℓ ✔
Showering	30 ℓ × 3 × 2 × 30 days = 5 400 ℓ ✔
Laundry	75 ℓ × 2 × 4 weeks = 600 ℓ ✔
Washing car	50 ℓ × 4 weeks = 200 ℓ ✔
Watering garden	50 ℓ × 30 days = 1 500 ℓ ✔
Total (in litres)	12 500 ℓ ✔		(7)	6M 1M × 6 Amount of water per category 1A Total	3
1.3	1.3.2	12 500 ÷ 1 000 ✔ = 12,5 kℓ ✔ ≈ 12,5 kℓ ✔	(3)	1M Dividing by 1 000 1A Answer 1R Rounding	2

Assignment 2 Memorandum

1.4	1.4.1 (ANSWER SHEET 2)				4M 1M × 4 Amount per category 1A Total	
	BLOCK	**VOLUME USED**	**AMOUNT (R)**			
	1	6	R0,00 × 6 kℓ = R0,00 ✓	(4)		3
	2	4	R7,20 × 4 kℓ = R28,80 ✓			
	3	3	R13,08 × 3 kℓ = R39,24 ✓			
	4	0	R0			
	5	0	R0			
	TOTAL		R68,04 ✓			

1.4	1.4.2 Water and sewage = R68, 08 + R68,08 × 3 ✓ $\qquad$ = R272,32 ✓ Amount including VAT = R272,32 + $\frac{15}{100}$ × R272,32 ✓ $\qquad$ = R313,17 ✓	(4)	1M Adding, multiplying by 3 1M Adding VAT 1A answer	3
	1.4.3 Amount spent on electricity = R1 100 – R313,17 ✓ $\qquad$ = R786,83 ✓	(2)	1M Subtraction 1A Answer	2

[31]

QUESTION 2				
	SOLUTION	**MARKS**	**EXPLANATION**	**TL**
2.1	2.1.1 Number of cups = 750 g ÷ 250 g✓ $\qquad$ = 3 cups✓	(2)	1M dividing by 250 1A Answer	2
	2.1.2 5kg = 5 × 1 000 $\qquad$ = 5 000 g✓ 5 000 g ÷ 275 g ✓ = 18 full cups ✓	(3)	1C Converting 1M Dividing 1R Rounding	3
	2.1.3 12 scones require 125 g margarine 60 scones require $\frac{60 \text{ scones} \times 125 \text{ g}}{12 \text{ scones}}$ ✓ = 625 g margarine ✓	(2)	1M Multiplying by 60 by 125	3
2.2	°F = °C × 1,8 + 32° $\quad$ = 180° × 1,8 + 32° ✓ $\quad$ = 356 °F ✓	(2)	1SF Substitution 1A Answer	2
2.3	2.3.1 20/09/2020✓	(1)	1A Answer	1
	2.3.2 Salt, milk and eggs✓✓	(2)	2A Answer	1
	2.3.3 Total = R22 + R60 + R71 + R114 + R27 + R119 + R42 + R36,45 $\qquad$ + R34 ✓ $\qquad$ = R525,45 Cost before VAT = R525,45 – R48,78✓ $\qquad$ = R476,67✓	(3)	1M Adding 1M Subtracting 1A Answer	2
	2.3.4 Cost per kg = $\frac{R119}{12,5 \text{ kg}}$ ✓ $\qquad$ = R9,52 per kg ✓	(2)	1M Dividing by 12,5 1A Answer	2
	2.3.5 Milk : brown sugar $\qquad$ 60:42 $\quad$ = $\frac{60:42}{6 : 6}$ ✓ $\qquad$ = 10:7 ✓	(2)	1S Substitution 1A Answer	2

[19]

TOTAL: 50

Exemplar Assessments

Term 1 Test

Duration: 1 hour Total marks: 50

Term 1 Test

Instructions

1. Number your work according to the numbering system used in the question paper.
2. Show all calculations to be able to earn more marks.
3. Write all your answers in ink. Leave a line before writing a solution to the next question.
4. Round off the final answers appropriately according to the context, unless otherwise stated.
5. Please use ANSWER SHEET 1 to answer Question 2.3.

Question 1

There are 24 learners in Mrs Ncube's Grade 10A class. She hides 500 sweets for her learners to do a treasure hunt. Learners search to find the hidden sweets before she introduces her new lesson on Data Handling. Mrs Ncube records the number of sweets each learner finds as follows.

12	18	14	14	16	14	18	21	32	11	19	14
4	10	22	23	22	26	25	21	29	13	14	17

1.1.1 Is the data continuous or discrete? Explain your answer. (2)

1.1.2 What is the modal number of sweets found by the learners? (2)

1.1.3 What is the range of the number of sweets found? (2)

1.1.4 Calculate the mean number of sweets found. (3)

1.1.5 Determine the median of the number of sweets found. (3)

1.2 Mrs Ncube told the learners that they had not found all the sweets she had hidden. She represents the sweets she hid using a pie chart as shown below. Study the chart and answer the questions that follow.

Number of sweets hidden by Mrs Ncube
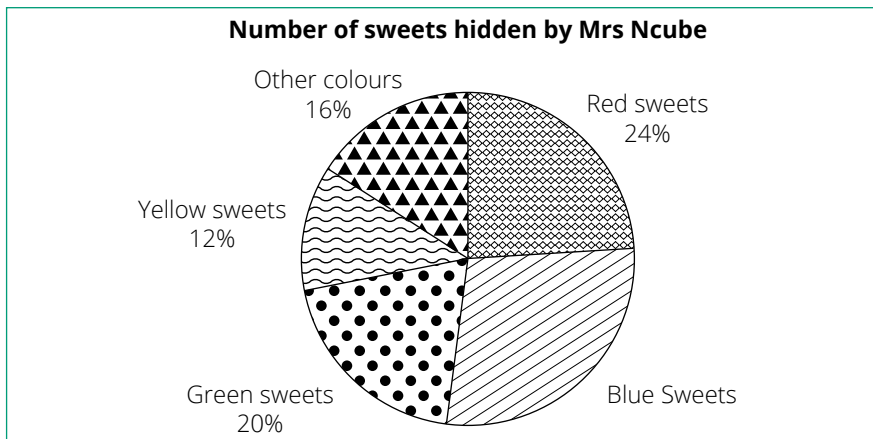
1.2.1 Determine the percentage of the blue sweets. Hence, determine the number of blue sweets hidden by Mrs Ncube. (4)

1.2.2   18 sweets in the "Other" sector were white. What was the number of sweets in this sector that were not white?   (4)

[20]

Question 2

Pinkie and 65 colleagues in the business park where she works plan a trip to Limpopo. They need a bus to travel there. They hire a bus at R3 000 per day. Each bus has a capacity of 30 people.

2.1   How many buses do they need to hire for the trip for them to arrive at the same time?   (3)

2.2   The following table shows the relationship between the number of people hiring a bus and the amount each person pays to raise the R3 000.

Relationship between number of people hiring a bus and the amount each pays

Number of people hiring	2	A	10	15	30
Amount each person pays (R)	1 500	600	300	B	100

2.2.1   Describe the relationship between the number of people hiring a bus and the amount each person pays.   (2)

2.2.2   Name the type of relationship described in 2.2.1 above.   (1)

2.2.3   Find the values of A and B in the table.   (4)

2.2.4   If 10 people want to hire a bus, what percentage of the money required will each person need to pay?   (3)

2.3   Use the template in ANSWER SHEET 1 to draw a graph of the relationship between the number of people hiring the bus and the amount each person pays.   (6)

[19]

Question 3

Musi wants to start a transport business. He will operate on the Johannesburg – Pretoria route. The CEO of the bus dealer company told Musi that their buses have a diesel consumption rate of 22 ℓ per 100 km and they have a seating capacity of 37 passengers.

•   The current bus fare to Pretoria is R30.

•   The distance from Johannesburg to Pretoria is 60 km.

3.1   How much diesel does the bus use for a return trip to Pretoria?   (3)

3.2   Diesel costs R14,20/ ℓ. Musi will also pay R120 for the rank per single trip.

3.2.1   How much will he spend on diesel for a return trip?   (2)

3.2.2   What is his profit on a return trip to Pretoria?   (4)

3.3   Suggest two ways in which Musi can make a larger profit.   (2)

[11]

TOTAL: 50

Term 1 Test

ANSWER SHEET 1

Name: Surname:

Grade:

For Question 2.3

A graph of the relationship between the number of people hiring a bus and the amount each has to pay

Term 2 Test

Duration: 1 hour Total marks: 50
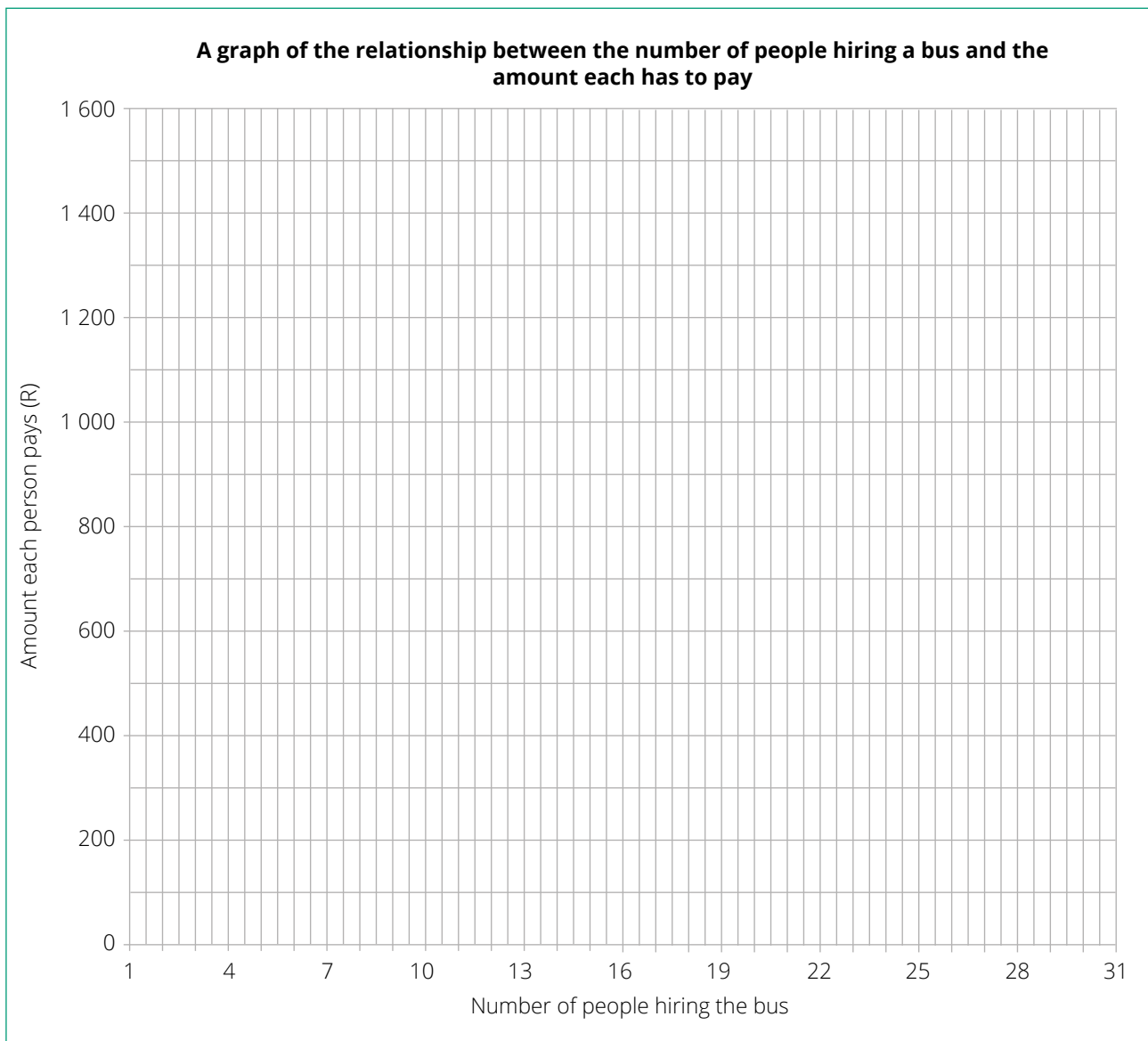
Term 2 Test

> ## Instructions
>
> 1. Number your work according to the numbering system used in the question paper.
> 2. Show all calculations to be able to earn more marks.
> 3. Write all your answers in ink. Leave a line before writing a solution to the next question.
> 4. Round off the final answers appropriately according to the context, unless otherwise stated.

Question 1

A car hire company uses the following graph for their tariffs to charge customers who hire their vehicles. Study the graph and answer the questions that follow.

A graph showing tariffs of a car hire company
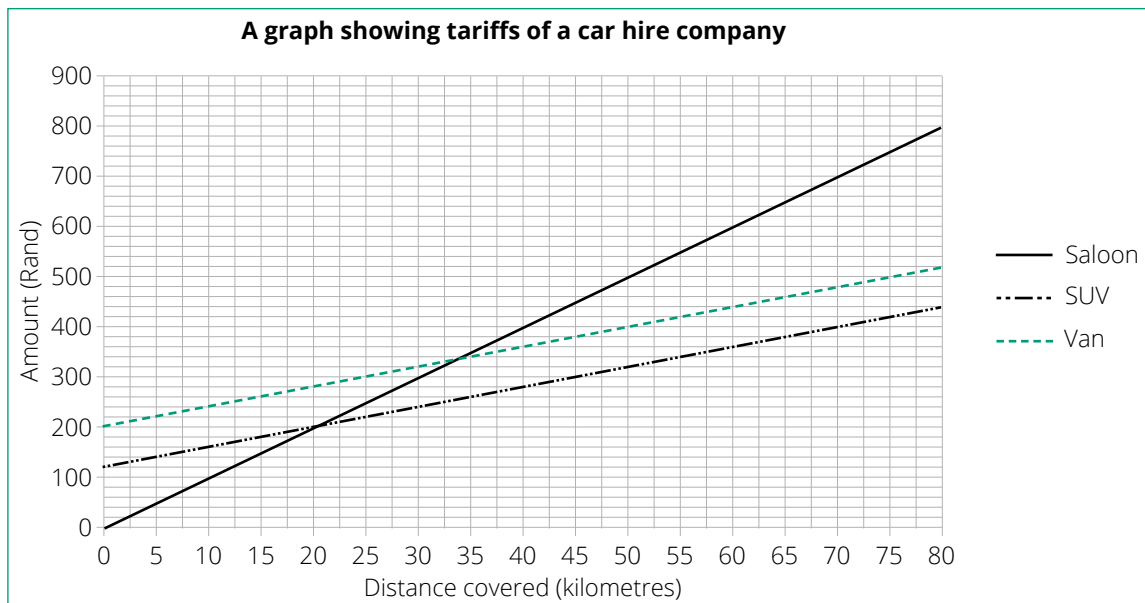
1.1   Clients choose the car they wish to hire according to their various needs.

1.1.1   Give two possible reasons why a client would hire a specific car. (2)

1.1.2   Determine the amount you would pay if you covered 10 km using a saloon car. Hence, determine the cost per kilometre covered. (4)

1.1.3   What distance would you cover if you paid R300 using an SUV? (2)

1.1.4   If you wish to cover 35 km which car would you hire? (2)

1.1.5   For anyone to hire a van they would first need to pay an amount upfront, and then pay R4 for every kilometre travelled.

1.2.1   Write the formula you would use to determine the amount you would pay if you hired a van.

Amount = ... (2)

Term 2 Test

1.2.2 Use your formula, or otherwise, to determine the amount you would pay if you hired a van and you covered 75 km. (2)

1.3 Use the graph to determine:

1.3.1 the cheapest car to hire if you need to cover a very long distance (2)

1.3.2 the cheapest car to hire if you only need to cover 5 km. (2)

1.4 For what distance would the cost of an SUV be the same as that of a saloon car? (2)

[20]

Question 2

A pizza outlet prepares three types of pizzas. On Wednesdays, they prepare pizzas according to the following chart.

Base	Topping	Number of pizzas
Thick	Chicken and mushroom	40
	Beef	50
	Mayo	60
Thin	Chicken and mushroom	60
	Beef	40
	Mayo	50

The ingredients listed below can make the bases of 3 thick-base pizzas or 8 thin-base pizzas.

- 1 cup flour
- 2 teaspoons sugar
- 1 teaspoon yeast
- 2 pinches salt
- 2 tablespoons cooking oil
- $\frac{3}{4}$ cup water

1 teaspoon = 5 ml	1 tablespoon = 15 ml	1 cup = 250 ml

2.1 A thin-base pizza has less cheese and costs R98,99, while a thick-base pizza has more cheese and costs R109,45.

2.1.1 How much would the pizza outlet make if they sold all the pizzas made on Wednesdays for the month of February if the first day of the month is a Wednesday? (3)

2.1.2 If you were to make 15 thick-base pizzas, how many cups of flour would you need? (2)

2.1.3 How many tablespoons can be measured from $\frac{3}{4}$ cup water? (3)

2.1.4 Write the ratio of the amount of water used to the amount of cooking oil, in a simplified form. (3)

2.2 Customers can order different types of pizzas.

2.2.1 What is the probability that a customer will order a:

a) chicken and mushroom pizza (2)

b) thick-base pizza? (2)

2.2.2   What is the probability that a customer will order a thin-base pizza with mushroom?   (2)

2.3   The oven that is used to make the pizzas measures temperature in Fahrenheit. The baking temperature for the pizza is set by a new employee to 310 °F. Is this temperature correct if he had been instructed to set the temperature at 180 °C?

[Use the formula: °C = (°F − 32°) × 1,8]   (3)

[20]

Question 3

Ayanda works as a nurse in a hospital. She also has a tuck shop. She deposits money in her account and also withdraws to buy stock. Her statement for a certain period is shown below.

Ayanda Zulu, Number 15, 14th Street, Fordsburg 2092		PEOPLE'S BANK CURRENT ACCOUNT: 12345678910 31/08/2019	
ACCOUNT STATEMENT STATEMENT PERIOD: 01/07/2019 – 31/08/2019			
Date	**Transaction description**	**Amount(R)**	**Balance(R)**
01/07/2019	Opening balance	7 200,00	2 300,00
05/07/2019	Cash deposit	3 000,00 –	9 500,00
06/07/2019	Cash withdrawal at ATM	6,50–	6 500,00
06/07/2019	Transaction charge (fixed)	5 000,00–	6 493,50
18/07/2019	Cash withdrawal at counter		1 493,00
18/07/2019	Transaction charge	95,00–	1 398,00
31/07/2019	Salary deposit	13 500,00	A
31/07/2019	Administration fees	125,00–	14 773,00
05/08/2019	Cash withdrawal at counter	13 000,00–	1 773,00
05/08/2019	Transaction charge	247,00–	1 526,00
18/08/2019	EFT transfer to Hotel Leisure	1 400,00–	126,00
31/08/2019	Salary deposit	13 500,00	13 626,00
31/08/2019	Closing balance		13 626,00

3.1   On which date(s) was:

3.1.1   the statement requested   (2)

3.1.2   the account credited the highest?   (2)

3.2   How much more was Ayanda charged for withdrawing money over the counter, rather than withdrawing from the ATM?   (2)

3.3.   Determine the value of A, the balance on the 31/07/2019.   (2)

3.4   What advice would you give Ayanda to reduce her bank charges?   (2)

[10]

TOTAL: 50

Term 3 Test

Duration: 1 hour Total marks: 50

Term 3 Test

Instructions

1. Number your work according to the numbering system used in the question paper.
2. Show all calculations to be able to earn more marks.
3. Write all your answers in ink. Leave a line before writing a solution to the next question.
4. Round off the final answers appropriately according to the context, unless otherwise stated.

Question 1

Angie works for an advertising company. She serves as a graphic designer and as an electrician. She also assists to erect the signs onto the fixed stands in different locations. She is paid a basic salary of R8 000 per month, for her normal work, which is to erect signs. Angie is also paid R500 per hour for electrical installation or repair, and R1 800 per design she makes. The table below shows a summary of her invoice to the advertising company. This includes her basic salary.

From: Ms Angie Mathu 1007, EXT 2, zone 7 Dobsonville, SOWETO		The Finance Clerk, City Ads Lounge, Johannesburg 2000 TEL: 011 472 1133
INVOICE		
Item	**Description**	**Amount (R)**
Basic salary	Basic payment	8 000
Electrical work	Soweto, Zone 3 (4 hours: fixing lights at Braamfischerville Mall in Braamfontein)	P
Graphic designs	• Macro Ends × 3 • Fish Den × 2 • Intensity Investments × 1	Q
Transport refund	General	3 300
TOTAL (before taxation)		

1.1   Identify:

1.1.1 Angie's fixed income   (1)

1.1.2 two items on Angie's invoice that vary according to the amount of work she does in a
       particular month.   (2)

1.2   Determine:

1.2.1 the value of P, the total amount she is paid for electrical work   (2)

1.2.2   the value of Q, the total amount she is paid for graphic designs.   (2)

1.3   What is her total payment for the month displayed on the invoice?   (2)

1.4   Angie contributes 1% of her total income to the Unemployment Insurance Fund (UIF). She contributes 7,5% of her total income to a pension fund of and contributes R2 640 towards the medical aid fund.

1.4.1   Calculate the amount she has to pay in to UIF and the pension fund.   (4)

1.4.2   Angie, her mother and her two children are members of the medical aid fund. She pays in R510 for herself. The rest of her contribution into the medical aid fund is for her mother and her two children. How much does she pay for each of the three members in her family?   (4)

1.4.3   Determine the amount that will be deposited in her account.   (4)

[21]

Question 2

The figures below show the arrangement of tins of fish in a box. A box contains 24 tins, arranged in layers. Each layer contains 12 tins.
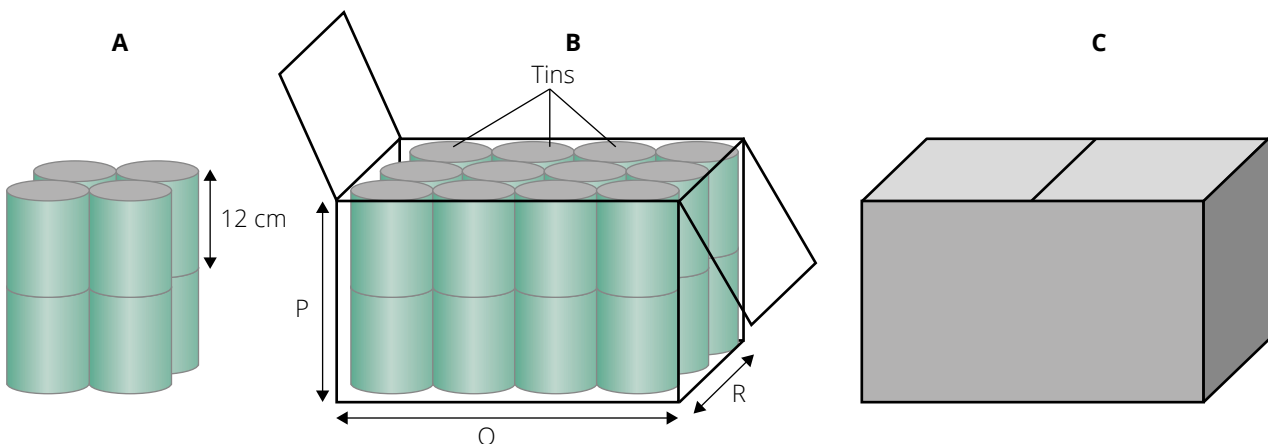
- The radius of each tin is 4 cm and the height is 12 cm
- The tins are arranged in layers, rows and columns as shown above. The arrangement does not show the exact number.
- The base, lid and walls are each 1 cm in thickness

2.1   Determine:

2.1.1   the diameter of each tin   (2)

2.1.2   the number of layers, rows, and columns of tins in a box.   (4)

2.2   Determine:

2.2.1   the height, P of a box, as measured on the outside of the box   (2)

2.2.2   the length, Q of a box measured on the outside of the box   (2)

2.2.3   the breadth, R of a box measured on the outside of the box.   (2)

Term 3 Test

2.3   What are the dimensions (length and breadth) of one lid of the box?   (3)

2.4   The 2D layout of the box is shown below.
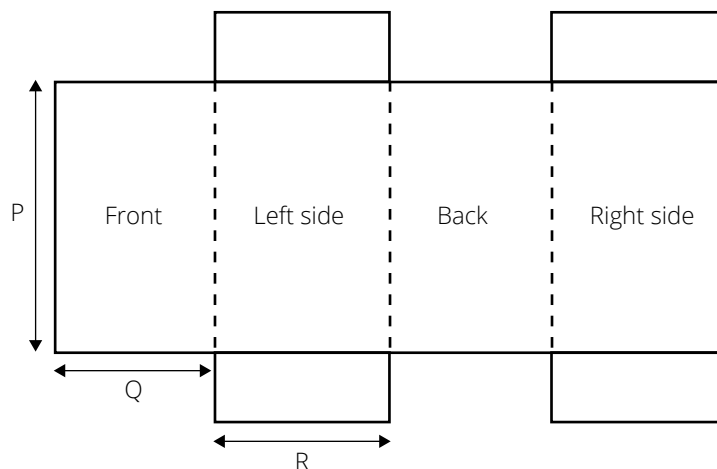
2.4.1   Determine the minimum length and breadth of the cardboard from which the box
         can be made.   (4)

2.4.2   Calculate the area of the entire layout of the box   (8)

2.5   What is the disadvantage of a box whose height is much larger than the length and
         breadth of the box?   (2)

[29]

TOTAL: 50

Term 1 Test Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1

		SOLUTION	MARKS	EXPLANATION	TL
1.1	1.1.1	Discrete. ✓ The numbers of sweets are only whole numbers. ✓	(2)	1CA Answer 1O Reasoning	2
	1.1.2	Modal number is 14 sweets ✓✓	(2)	2CA Mode	2
	1.1.3	Range = 32 – 4 ✓ = 28 sweets ✓	(2)	1MA Subtraction 1CA Range	2
	1.1.4	Mean = 429 ÷ 24 ✓✓ = 17,875 = 18 sweets ✓	(3)	2MA Sum divided by 24 1CA Answer	2
	1.1.5	4; 10; 11; 12; 13; 14; 14; 14; 14; 14; 16; 17; 18; 18; 19; 21;21; 22; 22; 23; ; 25; 26; 29; 32 ✓ Median = (17 + 18) ÷ 2 ✓ = 17,5 ✓	(3)	1MA Arranging 1MA Dividing by 2 1CA Answer	2
1.2	1.2.1	Blue sweets = 100% – (20% + 12% + 16% + 24%) ✓ = 28% ✓ $\frac{28}{100}$ × 500 sweets ✓ =140 sweets ✓	(4)	1MA Subtraction 1CA Answer 1MA Multiplying 1CA Answer	3
	1.2.2	Other = $\frac{16}{100}$ × 500 sweets ✓ = 80 sweets ✓ Sweets that are not white = 80 – 18 ✓ = 62 sweets ✓	(4)	1MA Multiplying 1CA Answer 1MA Subtraction 1CA Answer	3
					[20]

QUESTION 2

		SOLUTION	MARKS	EXPLANATION	TL

2.1	2.1	Number of buses = $\frac{66}{30}$ ✓
		    = 2,2 ✓
		    = 3 buses should be hired ✓
			(3)	1M Dividing by 30
				1CA Answer
				1R Rounding
					2

2.2	2.2.1	When the number of people hiring the bus increases, the amount each person has to pay decreases. ✓✓	(2)	2O Opinion	2
	2.2.2	Indirect/ inverse proportion/indirect relationship/ inverse relationship ✓	(1)	1 CA Answer	1

Term 1 Test Memorandum

	2.2.3 A = $\frac{R3\,000}{R600}$ = 5 people ✓✓ B = $\frac{3\,000}{15\,\text{people}}$ = R200 ✓✓	(4)	2 CA correct values 2 CA correct values	2
	2.2.4 10 people pay R300 each Percentage each pays = $\frac{R300}{R3\,000}$ ✓ × 100% ✓ = 10%✓	(3)	1M Dividing by 3 000 1M Multiplying by 100% 1CA Answer	2
2. 3	**A graph of the relationship between the number of people hiring a bus and the amount each has to pay**	(6)	3A Any 3 correct points plotted 2A curve 1A joining points	2
			[19]	

QUESTION 3				
	SOLUTION	**MARKS**	**EXPLANATION**	**TL**
3.1	Distance covered on a return trip = 60 km × 2 = 120 km ✓ 100 km distance requires 22 ℓ of diesel 120 km distance requires $\frac{120\,\text{km} \times 221}{100\,\text{km}}$ ✓ = 26,4 ℓ ✓	(3)	1M calculating distance 1A calculating amount of petrol 1CA Answer	2
3.2	3.2.1 Expense on diesel for a return trip = 26, 4 ℓ × R14,20✓ = R374,88 ✓	(2)	1M Multiplying 1A Answer	2
	3.2.2 Income from a return trip = 37 passengers × R30 × 2 = R2 220 ✓ Expenses = R374,88 + R120 × 2 = R614,88 ✓ Profit = R2 220 – R614,88 ✓ = R1 605,12 ✓	(4)	1M Calculating income 1M calculating expenses 1M subtraction 1CA Answer	3
3.3	Make more trips ✓ Make his vehicle more attractive to the passengers ✓ Advertise his bus business on social media ✓	(2)	2O opinion	2
			[11]	

TOTAL: 50

Term 2 Test Memorandum

Duration: 1 hour Total marks: 50

Term 2 Test Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1					
		SOLUTION	MARKS	EXPLANATION	TL
1.1	1.1.1	Good price ✓ Good car/ comfort ✓ 　　　[Any other relevant answer]	(2)	2O correct answer	2
	1.1.2	R100 ✓✓ Cost per kilometre = R100 ÷ 10km✓ = R10 ✓	(4)	2RG 1M Dividing 1A Correct answer	2
	1.1.3	45 km ✓✓	(2)	2RG	2
	1.1.4	SUV ✓✓	(2)	2RG	2
1.2	1.2.1	Amount = R200 + R4 × number of kilometres covered	(2)	2A Formula	2
	1.2.2	Amount = R200 + R4 × 75 km ✓ 　　　　= R500 ✓ OR Reading R500 from the graph ✓✓	(2)	1SF correct substitution 1A Answer Answer only full marks	2
1.3	1.3.1	SUV ✓✓	(2)	2A Correct answer	1
	1.3.2	Saloon car ✓✓	(2)	2A Correct answer	1
1.4	20 km ✓✓		(2)	2A Correct answer	1
					[20]

Term 2 Test Memorandum

QUESTION 2

		SOLUTION	MARKS	EXPLANATION	TL
2.1	2.1.1	Amount on one Wednesday $= (R98,99 + R109,45) \times (40 + 50 + 60)$ ✔ $= R208,44 \times 150$ $= R31\ 266$ ✔ Amount on 4 Wednesdays in February $= R31\ 266 \times 4$ $= R125\ 064$ ✔	(3)	1M Adding 1M Multiplying 1A Answer	
2.1	2.1.2	3 pizzas require 1 cup 15 pizzas require $\frac{15 \times 1}{3}$ ✔ $= 5$ cups ✔	(2)	1M Dividing by 3 1A Answer	2
	2.1.3	$\frac{3}{4}$ cup $= \frac{3}{4} \times 250$ ml $= 187,5$ ml ✔ Number tablespoons $= 187,5$ ml $\div 15$ ml ✔ $= 12,5$ tablespoons ✔	(3)	1MA getting 187,5 1M Dividing by 15 1CA Answer	3
	2.1.4	Water:Cooking oil $\frac{3}{4}$ cup:2 tablespoons $= (\frac{3}{4} \times 250$ ml$)$:$(2 \times 15$ ml$)$ ✔ $= 187,5$ ml:30 ml ✔ $= 6:1$ ✔	(3)	1C conversion 1M Ratio in ml 1SF Answer	3
2.2	2.2.1	(a) P(chicken and mushroom) $= \frac{100}{300}$ ✔ $= \frac{1}{3}$ ✔	(2)	1CA Answer 1SF simplification	2
		(b) P(thick-base) $= \frac{150}{300}$ ✔ $= \frac{1}{2}$ ✔	(2)	1CA Answer 1SF simplification	2
	2.2.2	P(thin-base pizza with mushroom) $= \frac{60}{300}$ ✔ $= \frac{1}{5}$ ✔	(2)	1CA Answer 1SF simplification	2
2.3		°C $= ($°F $- 32°) \div 1,8$ $= (310° - 32°) \div 1,8$ ✔ $= 154,4°$ ✔ The temperature of 310 °F is not enough to give the correct 180 °C required for baking ✔	(3)	1SF Substitution 1CA Answer 1O Explanation	4
					[20]

QUESTION 3

		SOLUTION	MARKS	EXPLANATION	TL
3.1	3.1.1	01/07/2019 – 31/08/2019 ✔✔	(2)	2A Answer	1
	3.1.2	31/07/2019 ✔ and 31/08/2019 ✔	(2)	2A Answer	1
3.2		Extra charge $= R247 + R95 - R6,50$✔ $= R335,50$ ✔	(2)	1MA Subtracting 1A Answer	2
3.3		A $= R1\ 398 + R13\ 500$ ✔ $= R14\ 898$ ✔	(2)	1A Adding 1A Answer	2
3.4		Ayanda should withdraw cash from the ATM instead of withdrawing over the counter. ✔✔	(2)	2O Correct suggestion	2
					[10]

TOTAL: 50

Term 3 Test Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1			SOLUTION	MARKS	EXPLANATION	TL
1.1	1.1.1		Basic salary ✔	(1)	1CA Answer	1
1.2	1.1.2		Transport refund ✔ Electrical work ✔ Graphic designs ✔	(2)	2CA (any two)	1
	1.2.1		P = R500 × 4 ✔ = R2 000 ✔	(2)	1M Multiplying 1CA Answer Answer only full marks	2
	1.2.2		Q = R1 800 × 6 ✔ = R10 800 ✔	(2)	1M Multiplying 1CA Answer Answer only full marks	2
1.3			Total payment = R8 000 + R2 000 + R10 800 + R3 300 ✔ = R24 100✔	(2)	1M Adding 1CA Total payment	2
1.4	1.4.1		UIF = $\frac{1}{100}$ × R24 100 ✔ = R241 ✔ Pension = $\frac{7,5}{100}$ × R24 100 ✔ = R1 807,50 ✔	(4)	1M Multiplying by 1% 1A UIF value 1M Multiplying by 7,5% 1CA Pension value	2
	1.4.2		Medical aid for 3 family members = R2 640 – R510 ✔ = R2 130 ✔ Contribution per member = R2 130 ÷ 3 ✔ = R710 ✔	(4)	1M Subtracting 1A Medical aid for 3 1M Dividing 1CA Medical aid for 1	3
1.4	1.4.3		Total deductions = R241 + R1 807,50 + R2 640 ✔ = R4 688,50 ✔ Net payment = R24 100 – R4 688,50 ✔ = R19 411,50 ✔	(4)	1M Adding 1A Answer 1M Subtracting 1CA Net payment	2
					[21]	

Term 3 Test Memorandum

QUESTION 2			MARKS	EXPLANATION	TL
2.1	2.1.1	Diameter = 4 cm × 2 ✓ = 8 cm ✓	(2)	1M Multiplying by 2 1CA Answer	1
	2.1.2	Number of layers = 24 ÷ 12 ✓ = 2 layers ✓ Number of row/ columns = 4 columns ✓ Number of columns/ rows = 3 columns ✓	(4)	1M Dividing by 12 1A For layers 1A For columns 1A For rows	1
2.2	2.2.1	Height, P = (12 cm × 2 layers) + (1 cm × 2) ✓ = 26 cm ✓	(2)	1M Adding 1A Height	2
	2.2.2	Length, Q = (8 cm × 4 columns/ rows) +(1 cm × 2 walls) ✓ = 34 cm ✓	(2)	1M Adding 1A Length	2
	2.2.3	Breadth, R = (8 cm × 3 columns/ rows) +(1 cm × 2 walls) ✓ = 26 cm ✓	(2)	1M Adding 1A Breadth	2
2.3		Length of lid = Q = 26 cm ✓ Breadth of lid = 34 cm ÷ 2 ✓ = 17 cm ✓	(3)	1CA Length 1M Dividing by 2 1CA Breadth	1
2.4	2.4.1	Length = 2Q + 2R = (2 × 34) + (2 × 26 cm) ✓ = 120 cm ✓ Breadth = (2 × 17 cm) + 26 cm ✓ = 60 cm ✓	(4)	1M Adding 1CA Length 1M Adding 1CA Breadth	3
	2.4.2	Area of flaps = 26 cm × 17 cm × 4 flaps ✓ = 1 768 cm^2 ✓ Area of sides = 26 cm × 26 cm × 2 sides ✓ = 1 352 cm^2 ✓ Area of front and back = 26 cm × 34 cm × 2 faces ✓ = 1 768 cm^2 ✓ Total area = 1 768 + 1 768 + 1 352 ✓ = 4 888 cm^2 ✓	(8)	1M Multiplying 1CA Area of flaps 1M Multiplying 1CA Area of sides 1M Multiplying 1CA Area of front and back 1M Adding 1CATotal area	2
2.5		It can easily fall over and get damaged ✓✓	(2)	2O Reason	
					[29]

TOTAL: 50

Final Examination papers

Final Examination Paper 1

Duration: 1,5 hours Total marks: 75

Final Examination Paper 1

Name: _____   Surname: _____

Instructions

1. Number your work according to the numbering system used in the question paper.
2. Show all calculations to be able to earn more marks.
3. Write all your answers in ink. Leave a line before writing a solution to the next question.
4. Round off the final answers appropriately according to the context, unless otherwise stated.

Question 1

The principal of a school compiled the Term 3 Grade 10 results of his school. He used the following graph to represent the results. Each of the classes has 30 learners. Study the graph and answer the questions that follow.

A graph of Grade 10 learners who passed Term 3 exams
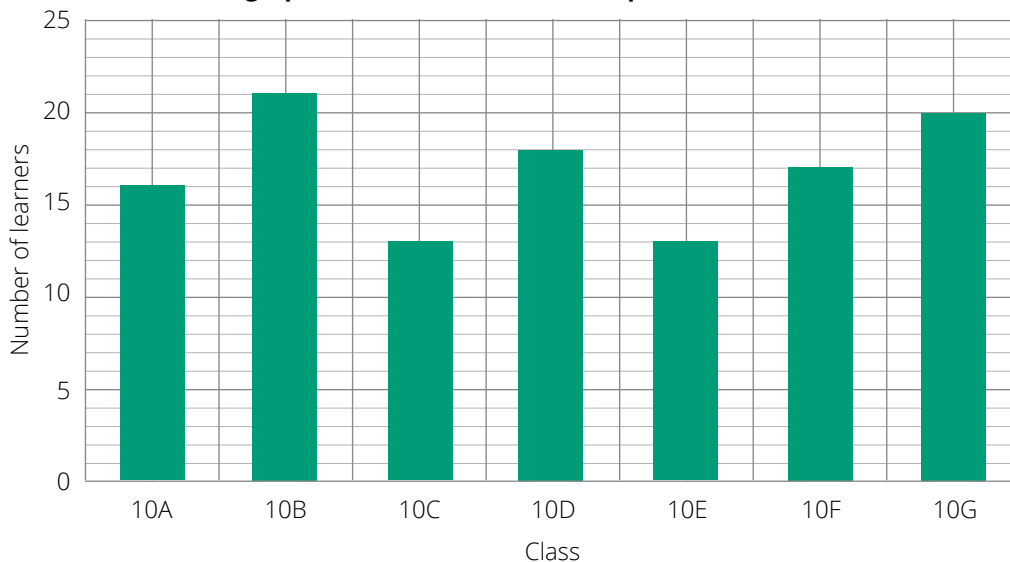
1.1	Is the data on learner performance numerical or categorical?	(1)
1.2	What type of graph is illustrated above?	(2)
1.3	Which class has the highest number of learners who passed the Term 3 exams?	(2)
1.4	The principal suggested that the two worst performing classes would be given remedial classes.	
1.4.1	Name the two classes that are to get remedial classes.	(2)

1.4.2   Which class is the median of the learners who passed? (2)

1.4.3   What is the probability that a class selected at random will have learners attending remedial classes? (2)

1.5   The principal also wrote down the number of failures per class. He however mixed up the classes. The numbers of failures were 14; 10; 9; 17; 17; 12; 13.

1.5.1   Assign the number of failures to the respective classes. (2)

1.5.2   What is the mode of the failures? (2)

[15]

Question 2

2.1   Mandy requests a loan of R30 000 from a bank to renovate her house. The bank is willing to give her the loan under the following terms and conditions.

Loan value	R30 000
Period of payment	3 years
Monthly instalment	R1 083,33

2.1.1   Write down the term used to refer to the loan before interest is added (2)

2.1.2   Calculate the total amount Mandy will pay back to the bank? (3)

2.1.3   Determine the total interest that will be added to the loan. (2)

2.1.4   Calculate the simple interest rate that the bank changes per year.

Use the formula:

> **Interest rate per year = Annual interest/Initial loan value × 100%** (3)

2.2   Mandy decides to suspend the renovation of her house. She would rather deposit 35% of her R30 000 income into a fixed deposit account at the beginning of the year for three consecutive years. The fixed deposit account pays 6% compound interest rate per year.

2.2.1   How much will she deposit in her account at the beginning of each year? (3)

2.2.2   How much, including interest, will she have in the account after one year? (2)

2.2.3   Will the amount she will have after three years be sufficient to cover the R30 000 required for the renovation, assuming the cost has remained the same? (5)

[20]

Question 3

3.1   The net salaries of 12 mine workers are listed in the table below.

R12 000	R13 000	R12 500	R11 500	R19 000	R14 000
R12 500	R12 100	R12 700	R11 000	R12 500	R10 000

3.1.1   Is the data categorical or numerical? (1)

3.1.2   What could the salary of the supervisor be? Explain your answer. (3)

Final Examination Paper 1

3.1.3   Determine the range of the salaries.   (2)

3.1.4   What is the mean salary of the mine workers?   (3)

3.2   The following pie chart shows how the lowest paid mine worker spends his net salary. Study the pie chart and answer the questions that follow.

Lowest paid mine worker's salary allocation
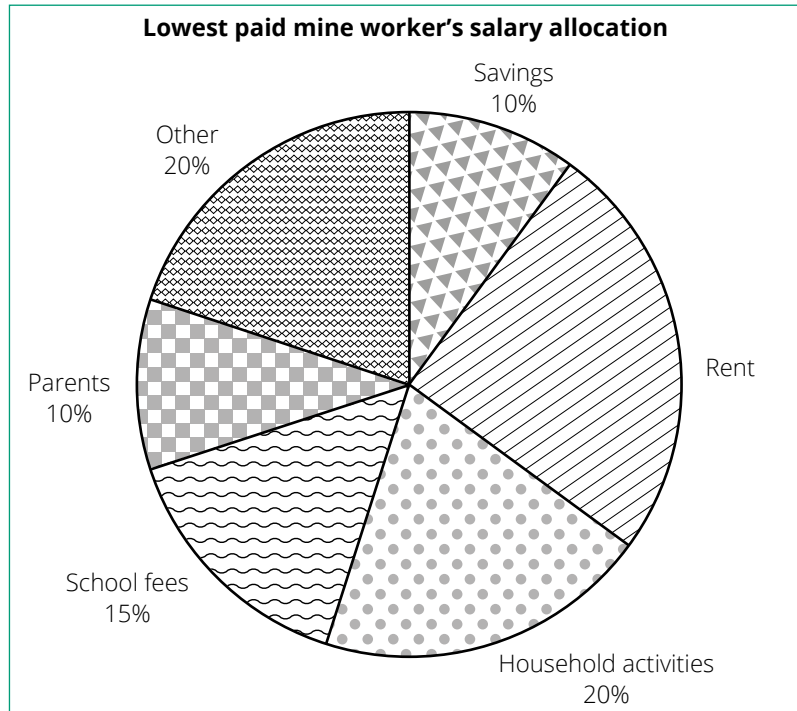
3.2.1   Calculate the amount of money the mine worker saves every month.   (2)

3.2.2   The mine worker says that he allocates more than R2 800 to rent. Verify his claim using relevant calculations.   (5)

3.2.3   The money he pays as school fees caters for two children. What is the payment per child?   (3)

3.3   Each year the salaries increase by 5%.

3.3.1   What will the salary of the highest paid mine worker be after 2 years?   (4)

3.3.2   What is the current salary of the person who will get the lowest payment?   (2)

[25]

Final Examination Paper 1

Question 4

Pamela received a bank statement, summarising her transactions for a specific period. The statement of the account is summarised below. Pamela's cash withdrawals done over the counter are to be used to make payments. Her bank also offers electronic payment options free of charge.

Pamela Swartz, Number 14, 4th Street, Fordsburg 2092		NEW CITY BANK SAVINGS ACCOUNT: 22245678918 31/08/2020	
ACCOUNT STATEMENT STATEMENT PERIOD: 01/07/2020 – 31/08/2020			
Date	**Transaction description**	**Amount**	**Balance**
01/07/2020	Opening balance		2 300,00
04/07/2020	Cash deposit	7 200,00	A
06/07/2020	Cash withdrawal at ATM	3 000,00 –	6 500,00
06/07/2020	Transaction charge (fixed)	6,50–	6 493,50
18/07/2020	Cash withdrawal on counter	5 000,00–	1 493,00
18/07/2020	Transaction charge	95,00–	1 398,00
31/07/2020	Salary deposit	13 500,00	14 898,00
31/07/2020	Administration fees	125,00–	14 773,00
05/08/2020	Cash withdrawal on counter	13 000,00–	1 773,00
05/08/2020	Transaction charge	247,00–	1 526,00
18/08/2020	eWallet to Mimi	1 400,00–	126,00
31/08/2020	Salary deposit	13 500,00	13 626,00
31/08/2020	Closing balance		13 626,00

4.1   How much was in the account on the day the statement was issued?   (2)

4.2   Pamela deposited some money and then withdrew some from the account.

4.2.1   Determine the value of A, the amount that was available in the account after the deposit on 04/07/2020.   (2)

4.2.2   How much in total did she withdraw from the counter during the period of the statement?   (2)

4.2.3   How much in total would Pamela have in her account in the period of the statement if she had done electronic payments instead of withdrawing money over the counter?   (3)

4.2.4   Pamela claims that if she had not withdrawn any money during the period, she would have more than R55 000 in the account. Justify her claim using relevant calculations.   (6)

[15]

TOTAL: 75

Final Examination Paper 2

Duration: 1,5 hours Total marks: 75

Final Examination Paper 2

Name: Surname:

Instructions

1. Number your work according to the numbering system used in the question paper.
2. Show all calculations to be able to earn more marks.
3. Write all your answers in ink. Leave a line before writing a solution to the next question.
4. Round off the final answers appropriately according to the context, unless otherwise stated.
5. Please use the following annexures:
   - ANNEXURE A for Question 1
   - ANNEXURE B for Question 3

Question 1

Mrs Khumalo decides to renovate her kitchen. The plan in ANNEXURE A shows the kitchen that needs to be renovated. Use the plan to answer the following questions.

1.1   Mrs Khumalo plans to replace the blinds in the kitchen and lay new tiles.

1.1.1   How many windows are on the walls of the kitchen?   (2)

1.1.2   Write down the scale used and explain its meaning.   (3)

1.1.3   Name three appliances that are visible on the plan.   (2)

1.1.4   On which side, in terms of compass direction, would you put the drainage system for the kitchen?   (2)

1.2   Some doors to the kitchen open outwards while others swing inwards.

1.2.1   Describe how the door on the Northerly side of the kitchen opens.   (2)

1.2.2   Which kitchen appliance should be placed closest to the door?   (2)

1.3   In which compass direction would the rest of the house be attached to the kitchen?   (2)

[15]

Question 2

Mrs Khumalo's master bedroom measures 6 m by 4,5 m and it has a wooden floor. The floor consists of wooden planks that are 1,5 m long and 0,15 m wide. A pack of the wooden planks contains 6 planks and costs R800.
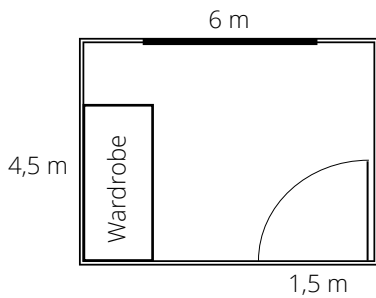
- The window is 2,5 m wide and 1 m high.
- The door is 2 m high and 1,5 m wide.
- The walls have a wooden skirting except at the doorway.
- Each piece of the skirting is 3 m long and costs R35.
- The wardrobe is 0,5 m long and 3 m wide.

2.1   Mrs Khumalo wants the bedroom to look new. She plans to replace the floor and the wooden skirting.

2.1.1   Determine the perimeter of the bedroom.   (3)

2.1.2   Calculate the cost of replacing the skirting if the labour cost is R250. The wardrobe will be fixed after the skirting has been fixed.   (4)

2.2   The wooden planks will cover the entire floor except under the wardrobe. Small offcuts can also be used for the floor. Only full packs can be sold.

2.2.1   Determine the area of the bedroom that will be covered by the wooden floor. No tiles will be placed under the wardrobe.   (5)

2.2.2   Calculate the cost of replacing the floor with wooden planks if the cost of labour is R60 per square metre.   (5)

2.3   Mrs Khumalo wants the wooden floor to be varnished.

2.3.1   Give one reason why it is important to varnish wooden planks.   (2)

2.3.2   The coverage of varnish is 4 m^2/litre of varnish. Will R400 be enough to buy varnish if a 4-ℓ tin of varnish costs R250?   (4)

2.4   Give one advantage of a wooden floor over a tiled floor.   (2)

[25]

Final Examination Paper 2

Question 3

Mrs Luthando has three children. She is a municipal worker and earns a monthly salary of R16 000. She gets an overtime allowance depending on the number of her overtime hours, and a transport allowance depending on the days worked. The overtime rate is R157,22 per hour. The transport allowance is R4 per km. Mrs Luthando works from Monday to Friday each week and her home is 28 km away from her place of work. Mrs Luthando's incomplete income and expenditure statements are shown in ANNEXURE B. Study the statements and answer the questions that follow.

3.1   Identify Mrs Luthando's fixed income.   (2)

3.2   Calculate the number of overtime hours Mrs Luthando worked during the month
        of June 2019.   (2)

3.3   Show how the transport allowance value of R4 480 was calculated.   (3)

3.4   Determine the value of M, the amount Mrs Luthando saved for the month of June 2019. (2)

3.5   Mrs Luthando claimed that her income for June could not cover her expenditure for
        the month. She therefore chose to borrow R2 800 from their "stokvel", which charges
        12% interest per month.

3.5.1   Use relevant calculations to verify whether it was necessary to borrow or not.   (5)

3.5.2   Calculate the total amount she paid back if she paid at the beginning of November 2019.(4)

3.5.3   What advice would you have given Mrs Luthando to avoid borrowing during the month
        of June 2019?   (2)

                                                                                         [20]

Question 4

4.1   Mandisa and her 22 friends are planning a grand end of year party. They each contribute
        R1 680 towards the party at the beginning of the year. This money is deposited in the bank,
        which pays 4% p.a. interest rate, compounded annually.

4.1.1   How much money, including interest, will be available in their account at the end of
        the year?   (5)

4.1.2   They plan to hire vehicles to transport them to the party venue. They can hire 7-seater
        SUVs, each at R700 per day, 14-seater taxis at R1 200 each per day or 33-seater minibuses
        at R1 800 each per day. Which would be the cheapest option?   (6)

4.2   They think that the end of year party will be on a Tuesday or Wednesday.

4.2.1   What is the probability that the party will be on a Wednesday?   (2)

4.2.2   What is the likelihood of the party not being on a Tuesday or Wednesday?   (2)

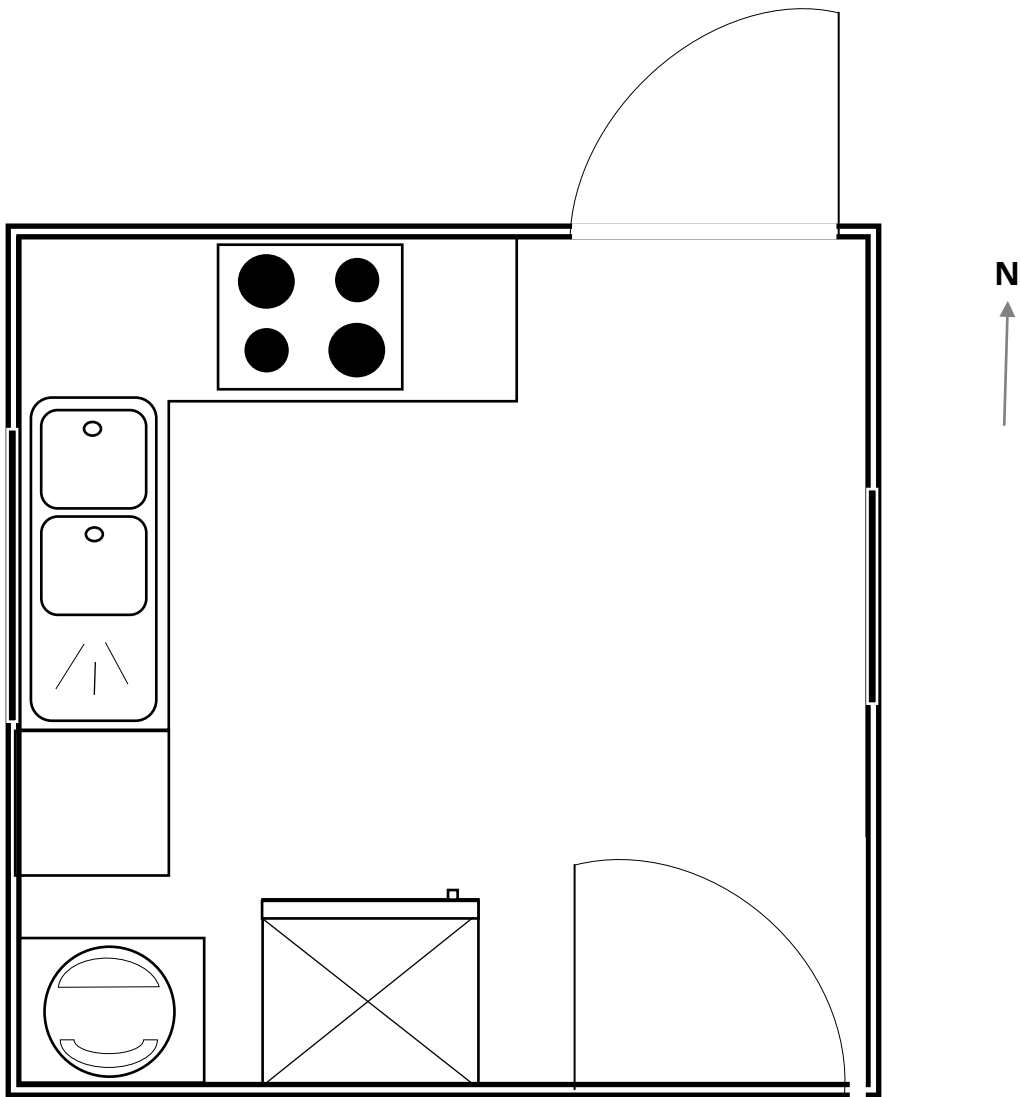   [15]

                                                                              TOTAL: 75

ANNEXURE A

For Question 1

MRS NCUBE'S KITCHEN PLAN

Scale: 1: 50

Final Examination Paper 2

ANNEXURE B

For Question 3

Income statement for June 2019

Income (Net)	Description	Amount in rand
Salary	R16 000 per month (R16 000 × 1)	16 000
Overtime	R157,22 per hour	4402,16
Transport allowance	R4 per km	4 480
Total for the month		

Expenditure statement for June 2019

Item	Amount in rand
Groceries	2 000
Utilities	1 980
School fees at R800 per child	2 400
Clothing	3 000
Entertainment	600
Petrol	2 700
Car repairs and maintenance	3 400
Savings (28% of total income)	M
Parents	2 200
Rent	4 000
Stokvel	2 000
Other (balance on income)	2 800

Final Examination Paper 1 Memorandum

Duration: 1,5 hours Total marks: 75

Final Examination Paper 1 Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1				
	SOLUTION	**MARKS**	**EXPLANATION**	**TL**
1.1	Numerical	(1)	1CA Answer	1
1.2	Bar graph ✓✓	(2)	2CA Answer	1
1.3	10B ✓✓	(2)	2CA Answer	1
1.4	1.4.1 10C ✓and 10E ✓	(2)	2CA Answer	1
	1.4.2 10F ✓	(2)	2CA Answer	1
	1.4.3 P(Attending remedial classes) = $\frac{2}{7}$ ✓✓	(2)	2CA Answer	1
1.5	1.5.1 10A = 14 10B = 9 10C = 17 10D = 12 10E = 17 10F = 13 10G = 10 ✓✓	(2)	2CA Allocation	1
	1.5.2 17 failures ✓✓	(2)	2CA Answer	1
				[15]

QUESTION 2				
	SOLUTION	**MARKS**	**EXPLANATION**	**TL**
2.1	2.1.1 Principal ✓✓	(2)	2CA Answer	1
	2.1.2 Total repayment = R1 083,33 × 3 × 12 months ✓✓ = R38 999,88 ✓	(3)	1MA Multiplying 1CA Answer	2
	2.1.3 Interest = R38 999,88 – R30 000 ✓ = R8 999,88 ✓	(2)	IMA Subtraction 1CA Answer	2

	2.1.4 Annual interest = R8 999,88 ÷ 3 rate
	                = R2 999,88 ✓
	        Annual interest rate = $\frac{R2\ 999,60}{R30\ 000}$ ✓× 100% ✓
	                = 10% ✓
		(3)	1CA Annual interest rate
			1MA Dividing by R30 000
			1CA Answer
				3

2.2	2.2.1 Annual deposit = $\frac{35}{100}$ × R30 000 ✓✓ = R10 5000 ✓	(3)	2MA Calculating deposit 1CA Answer	3
	2.2.2 Amount in 1 year = R10 500 + $\frac{6}{100}$ × R10 500✓ = R11 130✓	(2)	1MA Adding 1CA Answer	2

Final Examination Paper 1 Memorandum

2.2.3	Amount end of 2 years = (11 130 +10 500) + $\frac{6}{100}$ × (11 130 +10 500) ✓ = R22 927,280 ✓ Amount end of 3 years = (22 927,280+10 500) + $\frac{6}{100}$ × (22 927,280 +10 500) ✓ = R35 433,470 ✓ The amount will be sufficient for the renovation. She will save R5 433,470 ✓	(5)	1MA Multiplying 1CA Answer 1MA Multiplying 1CA Answer 1CA Opinion	4
				[20]

QUESTION 3

		SOLUTION	MARKS	EXPLANATION	TL
3.1	3.1.1	Numerical ✓	(1)	1CA Answer	1
	3.1.2	R19 000 ✓✓ It is higher than the rest of the salaries ✓	(3)	2CA Answer 1O Explanation	2
	3.1.3	Range = R19 000 – R10 000 ✓ = R9 000 ✓	(2)	1MA Subtraction 1CA Answer	2
	3.1.4	Mean = $\frac{R152\ 800}{12}$ ✓✓ = R12 733,33 ✓	(3)	2MA Dividing by 12 1CA Answer	2
3.2	3.2.1	Saving = 10% × R10 000 ✓ = R1 000 ✓	(2)	1MA Calculating 10% 1CA Answer	2
	3.2.2	Rent percentage = 100% – (20% + 15% + 10% + 20% + 10%) = 25% ✓✓ 25% × R10 000 ✓ = R2 500 ✓ His claim is invalid. He pays less than R2 800 ✓	(5)	2MA Percentage 1Ma multiplying by 25% 1CA Answer 1O Conclusion	4
	3.2.3	School fees = 15% × R10 000 ✓ = R1 500 ✓ Amount per child = R1 500 ÷ 2 = R750 ✓	(3)		3
3.3	3.3.1	After 1 year: R19 000 + $\frac{5}{100}$ × R19 000 ✓ = R19 950 ✓ After 2 years: R19 950 + $\frac{5}{100}$ × R19 950 ✓ = R20 947,50 ✓	(4)		3
3.3	3.3.2	R10 000 ✓✓	(2)	1CA Answer	1
					[25]

QUESTION 4

		SOLUTION	MARKS	EXPLANATION	TL
4.1		R13 626 ✓✓	(2)	1CA Answer	1
4.2	4.2.1	A = R2 300 + R7 200 ✓ = R9 500 ✓	(2)	1MA Adding 1CA Answer	2
	4.2.2	R5 000 + R13 000 ✓ = R18 000 ✓	(2)	1MA Adding 1CA Answer	2
	4.2.3	Amount lost over counter = R247 + R95 ✓ = R342 ✓ Amount that would be available = R13 626 + R347 = R13 973 ✓	(3)	1MA Calculation 1CA Answer 1MA Adding 1CA Answer	3
	4.2.4	Total amount withdrawn = R3 000 + R5 000 + R13 000 = R21 000 ✓✓ Transaction charges = R342 + 6,50 = R348,5 ✓ Total = R342 + R21 000 + R13 626 ✓ = R34 974,5 ✓ Pamela's claim is invalid. She would have less than R55 000 ✓	(6)	1MA Adding 1CA R21 000 1CA Charges 1MA Adding 1MA Adding 1CA Answer 1O Conclusion	4
					[15]

TOTAL: 75

Final Examination Paper 2 Memorandum

Duration: 1,5 hours Total marks: 75

Final Examination Paper 2 Memorandum

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RG	Reading from graph
SF	Correct substitution in a formula
O	Opinion
P	Penalty for incorrect units/ incorrect rounding off
NP	No penalty

QUESTION 1					
		SOLUTION	**MARKS**	**EXPLANATION**	**TL**
1.1	1.1.1	2 windows ✓✓	(1)	2CA Answer	1
	1.1.2	1:50 ✓ One unit on the plan represents 50 units in reality. ✓✓	(3)	1CA Scale 2O Meaning of scale	1
	1.1.3	Stove, fridge and washing machine✓✓	(2)	2CA Answer	1
	1.1.4	Westerly direction/ West✓✓	(2)	2CA Answer	1
1.2	1.2.1	It opens to the outside of the kitchen.✓✓	(2)	2CA Answer	1
	1.2.2	Stove✓✓	(2)	2CA Answer	1
1.3	South✓✓		(2)	2CA Answer	1
					[15]

QUESTION 2					
		SOLUTION	**MARKS**	**EXPLANATION**	**TL**
2.1	2.1.1	Perimeter = (6 m + 4,5 m) × 2 ✓✓ 　　　　　= 21 m ✓	(3)	2MA Calculation 1CA Answer	2
	2.1.2	Length of skirting = 21 m – 1,5 m = 19,5 m ✓ Number of wooden planks = 19,5 m ÷ 1,5 m 　　　　　　　　= 13 pieces ✓ Number of boxes = 13 ÷ 6 = 3 boxes ✓ Cost = R800 × 3 boxes + R250 　　　= R2 650 ✓	(4)	1CA Length 1CA Pieces needed 1CA Boxes needed 1CA Answer	3
2.2	2.2.1	Area of bedroom = 6 m × 4,5 m ✓ 　　　　　= 27 m^2✓ Area of wardrobe = 3 m × 0,5 m 　　　　　= 1,5 m^2✓ Area to be covered = 27 – 1,5 ✓= 25,5 m^2✓	(5)	1MA Calculation 1CA Area 1MA Calculating area of wardrobe 1MA Subtraction 1CA Difference	3

Final Examination Paper 2 Memorandum

2.2	2.2.2	Cost of labour = R60 × 25,5 m² = R1 530 ✔ Number of planks = 23,5 ÷ 1,5 = 16 pieces ✔ Boxed needed = 16 ÷ 6 = 3 boxes ✔ Cost of planks = R800 × 3 boxes = R2 400 ✔ Total cost = R2 400 + R1 530 = R3 930 ✔	(5)	1CA Labour cost 1CA Number of pieces 1CA Number of boxes 1CA Amount 1CA Total amount	3
2.3	2.3.1	To make the wood look better. To protect the wood from insects and water.	(2)	2O Explanation	1
	2.3.2	Varnish needed = 25,5 ÷ 4 = 6,38 litres ✔ Number of tins = 6,38 litres ÷ 4 litres = 2 tins ✔ Cost = R250 × 2 tins = R500 ✔ The R400 is insufficient. ✔	(4)	1CA Varnish needed 1CA Tins needed 1CA Cost 1O Conclusion	4
2.4		Wood is warm in winter. ✔✔	(2)	2A Answer	1
					[25]

QUESTION 3

		SOLUTION	MARKS	EXPLANATION	TL
3.1		R16 000 ✔✔	(2)	2A Answer	1
3.2		Overtime = R4 402,16 ÷ R157,22 ✔ = 28 hours ✔	(2)	1MA Multiplying 1CA Answer	2
3.3		Transport = R4 × 28 km × 2 × 20 days ✔✔ = R4 480 ✔	(3)	2MA Multiplying 1CA Answer	2
3.4		M = 28% × (R16 000 + R4 402,16 + R4 480) ✔ = R6 967,00 ✔	(2)	1MA Adding 1CA Answer	2
3.5	3.5.1	Total expenditure: R2 000 + R1 980 + R2 400 + R3 000 + R600 + R3 400 + R2 200 + R6 967 + R4 000 + R2 000 + R2 800 ✔ = R31 347 ✔ Total income: R16 000 + R4 480 + R4 402,16 ✔ = R24 882,16 ✔ Her expenditure was higher than her income. So it was necessary for her to borrow. ✔	(5)	1MA Adding 1CA Answer (expenditure) 1MA Adding 1CA Answer (income) 1O Explanation	4
	3.5.2	Repayment = R2 800 ✔ $+ \frac{12}{100} \times$ R2 800 × 4 ✔ = R4 144 ✔✔	(4)	2MA Adding interest to principal 2CA Answer	3
	2.5.3	Try to spend less than what she earns. ✔✔	(2)	2O Advice	2
					[20]

QUESTION 4

		SOLUTION	MARKS	EXPLANATION	TL
4.1	4.1.1	Amount invested = R1 680 × 22 ✔ = R36 960 ✔ Total amount = R36 960 $+ \frac{4}{100} \times$ R36 960 ✔✔ = R38 438,40 ✔	(5)	1MA Multiply 1CA Answer 1CA Percentage 1MA Adding interest 1CA Answer	3

Final Examination Paper 2 Memorandum

	4.1.2	Number of SUV's = 22 ÷ 7 = 4 vehicles✔ Cost = R700 × 4 = R2 800✔ Number of 14-seaters = 22 ÷ 14 = 2 vehicles✔ Cost = R1 200 × 2 = R2 400✔ Number of 33-Seaters = 1 vehicle Cost = R1 800 ✔ The 33-seater is the cheapest option. ✔	(6)	SUV's 1CA Vehicle number 2CA Cost 14-seater 1CA Vehicle number 2CA Cost 33-seater 1CA Cost 1O Cheapest vehicle	4
4.2	4.2.1	P(Party on Wednesday) = $\frac{1}{7}$ ✔✔	(2)	2CA Answer	1
	4.2.2	P(Party not on Tue or Wednesday) = $1 - \frac{2}{7} = \frac{5}{7}$	(2)	2CA Answer	1

TOTAL: 75

Pearson

Notes

Pearson South Africa

At Pearson, home of *Maskew Miller Longman* and *Heinemann,* we're here to help people make progress in their lives through learning.

We work with teachers and learners to create and continually improve our wide range of products and services. We create content in all 11 official languages for learners from pre-school to Grade 12. Whether it's our trusted CAPS-approved textbooks, digital and supplementary resources, or professional development courses, we put the learner at the heart of everything we do.

Every day all over South Africa, our products and services help learning flourish – because wherever learning flourishes, so do people.

Also available:

Browse and purchase Pearson eBooks at shop.**pearson.co.za**

Pearson

9 781485 720478