Western Cape Government

Western Cape Education Department
Directorate: Curriculum FET

MATHEMATICAL LITERACY

REVISION BOOKLET
2024 TERM 1

Grade 11

This revision program is designed to assist you in revising the critical content and skills covered during the 1st term. The purpose is to prepare you to understand the key concepts and to provide you with an opportunity to establish the required standard and the application of the knowledge necessary to succeed in the NCS examination.

The revision program covers the following topics:

MEASUREMENTS

A. Conversions

Conversions (metric to imperial system, solid to liquid, temperature) units between different systems (using conversion table) including:

- metric to imperial;
- solid to liquid
- Temperature from ^{o}C to ^{o}F

B. Time

Read, record and perform calculations involving time values, specifically:

- Interpreting various time formats (emphasis on the use of: and **h** when representing time)
- Calculating elapsed time
- Interpreting time recording formats
- Lesson / exam timetables.

A.

QUESTION 1

Study the recipe below and answer the questions that follow:

INGREDIENTS (Makes 24 FATCAKES)

- $6\frac{3}{4}$ cups of flour
- 2 teaspoons salt
- 2 tablespoons sugar
- 1 packet yeast
- Lukewarm water
- Cooking oil (for frying)

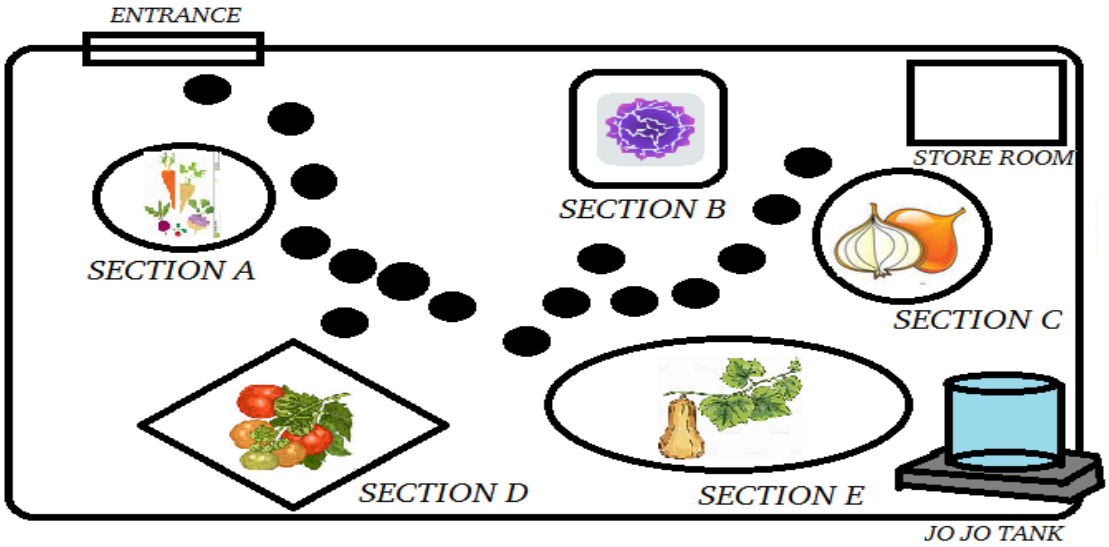
1.1 If one cup = 250 ml, calculate the total amount of flour used to make 48 fatcakes in ml. (2)

1.2 In the cooking instructions, it states that the oil in the pan must be heated to 375 °F.
Convert 375 °F to °C. Round your answer off to the nearest ten.
The following formula may be used:
°C = (°F – 32°) ÷ 1,8 (2)

1.3 How many tablespoons of sugar will be needed to make 72 fatcakes. (2)

QUESTION 2

Mr. Matenjwa is the Agricultural Science teacher at North Coast Agriculture College. He works with his learners in the school garden on Tuesdays and Thursdays every week during his period. They plant vegetables in different sections: The layout shows SECTION A (carrots), SECTION B (cabbages), SECTION C (onions), SECTION D (tomatoes) and SECTION E (butternuts). It takes 10 minutes to clean and water SECTION A, 15 minutes for SECTION B, 8 minutes for SECTION C, 15 minutes for SECTION D and 15 minutes for SECTION E.



2.1 Calculate the total time *in hours* to water and clean all the sections.
(Round your answer to the nearest hour) (3)

2.2 On Tuesdays, the period starts at 10:30 and the break starts at 11:30, will they finish before or during the break to clean and water all the sections? (2)

2.3 Each section requires 6.6 gallons of water on average. Will a 120 litre drum of water be enough to water all sections?
(make use of relevant calculations to support your answer)
NOTE: 1 gallon = 4, 55 *l* (3)

2.4 The following day the weather forecast stated that the maximum temperature will be 32 ^{o}C. Convert the temperature from ^{o}C to ^{o}F using the following formula:

$$^{o}F = (1,8 \times {}^{o}C) + 32^{o}$$ (2)

2.5 Mr. Matenjwa asked his learners to cover section D that is 5 m x 3.5m with a 185 inches x 125 inch shade net to protect tomatoes from the sun. Will the shade net be big enough to cover the entire section?
Show all calculations to support your answer.
NOTE: 1 inch = 2, 54 cm (2)

QUESTION 3

James is looking for the longest length of tape on a roll. He finds four rolls. Which one of the following rolls he should buy?

- Roll A 90 cm
- Roll B 0.095m
- Roll C 36 inches
- Roll D 2.8 feet

From Metric to Imperial	From Imperial to Metric
1cm = 0.3937inches(in)	1 inch = 2.54cm
1m = 1.0936 yards	1feet = 0.3048m
1km = 0.6214 miles	1 yard = 0.9144 m
1m = 3.2808 feet	1mile = 1.6093km

(9)

B.

QUESTION 4

Below is the summary of overall results for the top 5 Dusi Canoe marathon stage three (Inanda dam to Blue Lagoon.)

POSITION	**CANOEIST**	**DAY 1 RESULTS**	**DAY 2 RESULTS (TOTAL TIME)**
1	**ANDY BIRKETT**	**2h32min23sec**	**8h09min48sec**
2	**SBONELO KHWELA**	**2h28min29sec**	**8h11min15sec**
3	**THULANI MBANJWA**	**2h35min52sec**	**8h29min07sec**
4	**KHUMBULANI NZIMANDE**	**2h34min01sec**	**8h32min21sec**
5	**ANDREW HOUSTON**	**2h34min05sec**	**8h32min25sec**

4.1 Calculate the time taken by fastest canoeist to complete the second day. (2)

4.2 Which day had the shortest race? Give reason for your answer. (3)

4.3 The journalist made the statement that fastest canoeist won by only 2 min 27 sec. verify if the statement is correct. (4)

4.4 If Andy Birkett's date of birth is 09 October 1990 and Sbonelo Khwela's is 02 February 1988. What is their age difference? Give your answer in years and months. (2)

4.5 Lawanda saw her husband's training logbook and she noticed that he had trained 8000 hours for this race.
Convert 8000 hours to weeks, days and hours. (4)

QUESTION 5

5.1 **Alwande's uncle works for the defence force. He calls home every day. Use the table below to obtain the calls made by Alwande's uncles in a certain week. Answer the questions that follows.**

DAY	**TIME/DURATION OF CALL**
MONDAY	18:03 - 18:21
TUESDAY	27 min
WEDNESDAY	**A** - 19:14
THURSDAY	17:50 - **B**
FRIDAY	8:42 pm - 9: 20 pm

5.1.1 Calculate the duration of the call made on Monday. (2)

5.1.2 The uncle called home at 19:23 on Tuesday. At what time did he end the call? (2)

5.1.3 Wednesday and Thursday duration of the calls were 35 min and 47 min respectively. Calculate the values **A** and **B.** (4)

5.1.4 Write the Mondays call in a 12-hour format. (2)

5.1.5 Write Fridays call in a 24-hour format. (2)

5.2 **Sipho and Josh form a lift club to and from work. Josh walks to Sipho's house and arrive at 05:55, so they can leave within 5 minutes after Josh's arrival. The distance between Sipho's house and their work is 65km. On Monday they took them 1hour 15 minutes to get to work: while on Wednesday it took them 57 minutes.**

5.2.1 Josh walk to Sipho's place is 6 min on average.
Write the walking time in seconds. (2)

5.2.2 Write the duration of Mondays the trip in minutes. (2)

5.2.3 Calculate the difference between their Monday's and Wednesday's duration. (2)

5.2.4 Calculate the average speed for Monday's trip.
The following formula may be used:

$$speed = \frac{distance}{time} \quad (3)$$

5.2.5 Give possible reasons why they took longer on Monday compared to Wednesday. (2)

QUESTION 6

Study the examination timetable below and answer the questions that follow.

DATE	**GRADE 8**	**GRADE 9**	**GRADE 10**	**GRADE 11**	**GRADE 12**
14/06/19 **WED**		MATHEMATICS	AFRIKAANS P2 09:00-10:00 ENGLISH P 2 12:00-14:30	PHYSICAL SCIENCES P1 09:00-11:30 HISTORY P1 (2 HRS) ECONOMICS P1 09:11:00 ENGLISH P1 12:00-14:00	AFRIKAANS P2 09:00-11:30
15/06/19	TECHNOLOGY 12:00-13:00	CREATIVE ARTS 12:00-13:00	PHYSICAL SCIENCE 09:00-11:00 HISTORY /ECONOMICS 09:00-10:30	GEOGRAPHY PAPER1 /ACCOUNTING 09:00-11:30	LIFE ORIENTATION 09:00-11:00
19/06/19	ENGLISH 09:00-10:00 LO 12:00-13:00	AFRIKAANS 09:00-10:30	LIFE ORIENTATION (1,5 HRS) ENGLISH P2 12:00-13:30	ECONOMICS P2 /GEOGRAPHY P1 09:00-11:30 AFRIKAANS P2 12:00-13:30	PHYSICAL SCIENCES P1 09:00-12:00 ECONOMICS P1 14:00-15:30
20/06/19	SS 12:00-13:00	LO 09:00-10:00		HISTORY 2 12:00-14:00	HISTORY P1 09:00-11-00
21/06/19	AFRIKAANS 09:00-10:30	MATHEMATICS 09:00-10:30	LIFE SCIENCES 09:00-10:00	LIFE SCIENCES BUSINESS STUDIES 09:00-11:30	PHYSICAL SCIENCES PRAC (45MIN)

6.1	On which date and time was the History P1 grade 11 exam written?	(2)
6.2	How many exams were written on the 21st.	(2)
6.3	All morning session exams starts at 09:00 LO is will be written in the morning. Write the start and finishing time for LO.	(2)
6.4	Write the time for Economics P1 grade 11 in 12-format.	(2)
6.5	On what day was the 20/06/2019.	(2)

PATTERNS AND RELATIONSHIPS

Types of Patterns and Relationships:

1. **Constant / Fixed Relationship**: this relationship occurs when the dependent variable remains constant, while the independent variable continues to increase.

2. **Linear Relationship**: Relationships are linear when there is a constant difference between consecutive values within a set of variables.

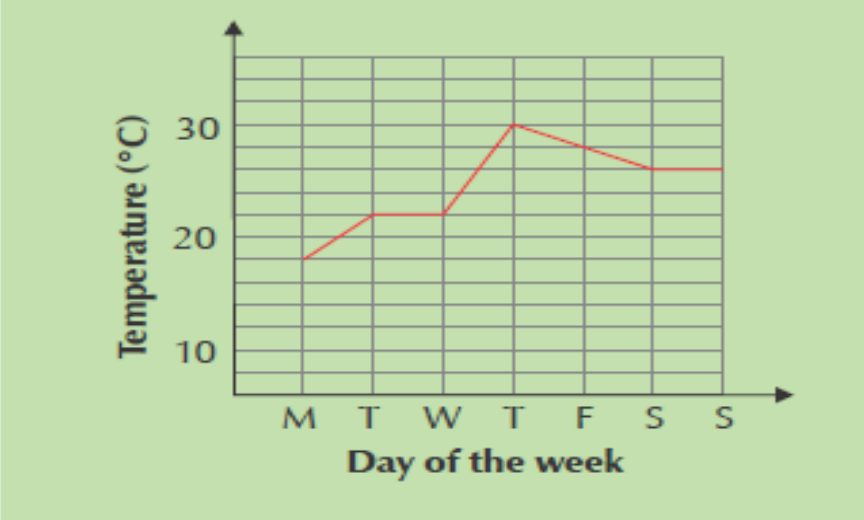
3. **Indirect / Inverse Proportion Relationship**: This relationship occurs when one variable increases by a factor, while the other variable decreases by that same factor. This result in a constant product between the two sets of variables.

4. **Constant Ratio Relationship**: This relationship exists when there is a constant ratio between consecutive terms of the pattern.

5. **Combination of Different Type of Relationships:** This relationship may incorporate some of the features of the different types of relationships.

QUESTION 1

Refer to the graph below and answer the questions that follow:



1.1 On which day was the temperature the highest? (2)

1.2 From which day to which day did the temperature stay the same? (2)

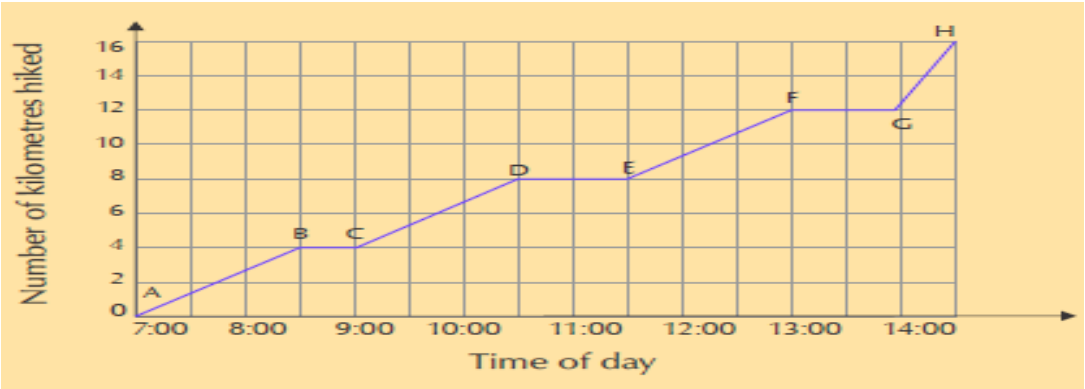
1.3 Between which days do you see the biggest increase in temperature? (2)

1.4 On which day is the temperature the lowest during the week? (2)

1.5 What was the temperature reading on Tuesday? (2)

QUESTION 2

Lindi and Thabang went on a day hike and drew the graph below to show their progress:



2.1 What was the total distance of the hike and how many hours did it take? (2)

2.2 Give the time periods when Lindi and Thabang were resting. (3)

2.3 One part of the graph is steeper than the others, explain what happened during this part. (2)

Question 3

Mrs. Gumede has started a small business baking cakes. It cost her R300, 00 to purchase the utensils she needed to start her business. Each cake cost R30, 00 to make. Mrs. Gumede intends selling the cakes at R50, 00 each.

3.1 Mrs. Gumede prepared a table of her cost price for making the first 30 cakes using the formula.

Cost price = Startup costs + (number of cakes × R30,00)

Table 1: Cost price for making the first 30 cakes.

Number of cakes made	0	6	10	15	16	**B**	30
Cost price	300	480	600	**A**	780	990	1 200

	Calculate the value of:	
3.1.1	A	(2)
3.1.2	B	(2)
3.2	Table 2 illustrates Mrs. Gumede's income if all 30 cakes are sold.	

TABLE 2: Income from sale of the first 30 cakes.

Number of sets made	0	4	**C**	15	16	20	30
Cost price	0	200	450	750	800	**D**	1 500

	Calculate the value of:	
3.2.1	C	(2)
3.2.2	D	(2)

QUESTION 4

Lerato decides to get a group of friends to play a lucky draw game. The bigger the group the more tickets they can buy, but if they win, they will have to share the prize money among more people. The total amount of money is R2 000.

Refer to the table below to answer the questions that follow:

Number of people	1	2	3	4	**B**	10	50
Share of the prize money	2000	1000	**A**	500	250	200	**C**

4.1. What is the target amount for the group? (2)

4.2. Explain on having a bigger group will have a bigger chance of winning an amount for each individual. (2)

4.3. What would you call this relationship if more winners must share in the prize money? (2)

4.4. Determine the values of **A**, **B** and **C** from the table above. (6)

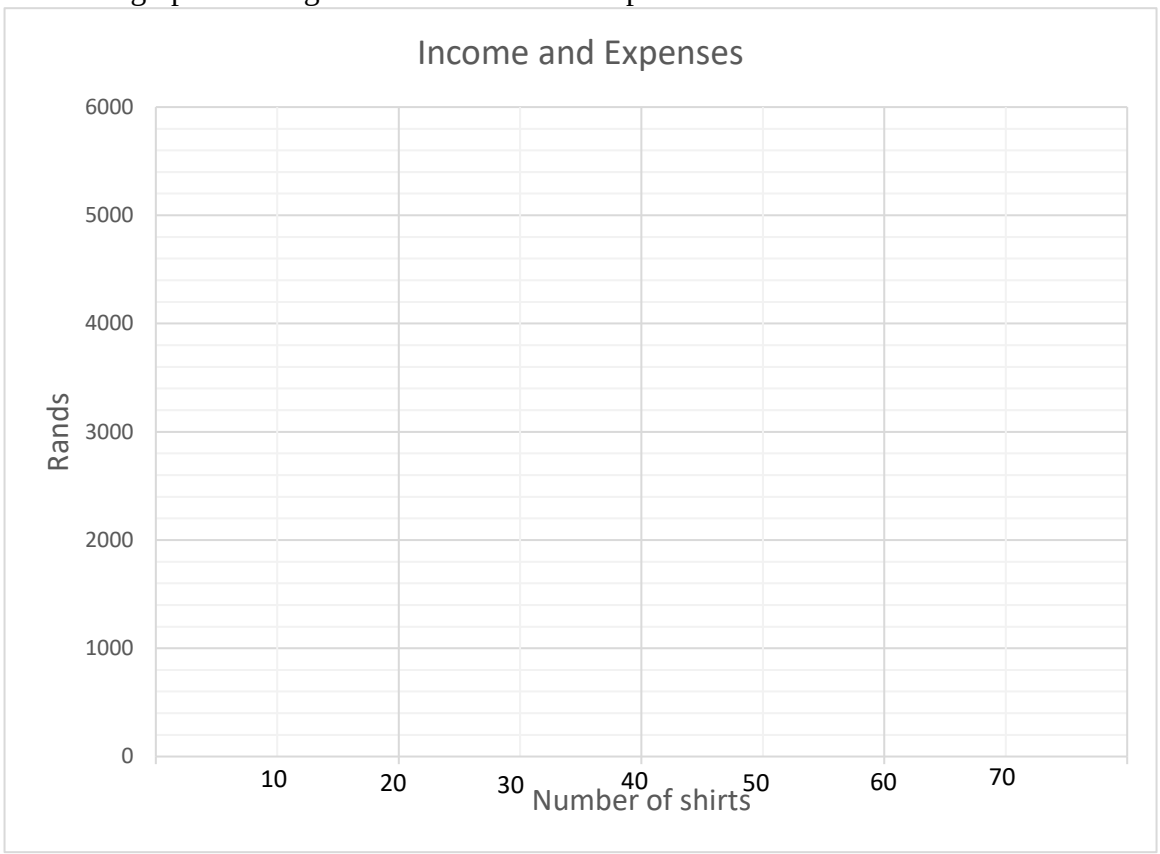
QUESTION 5

Mr McCarthy has a business that manufactures T-shirts. It costs R30 to produce one shirt and he will sell each shirt for R80. The company can produce a maximum of 70 shirts in a week.

5.1 Write an equation for the total income that will come from producing *x* number of shirts. (2)

5.2 Write an equation for the weekly expenses of the factory, if x shirts are produced and they have a fixed starting cost of R 1 000. (2)

5.3 Draw the graph showing both the income and expenses on one set of axis.

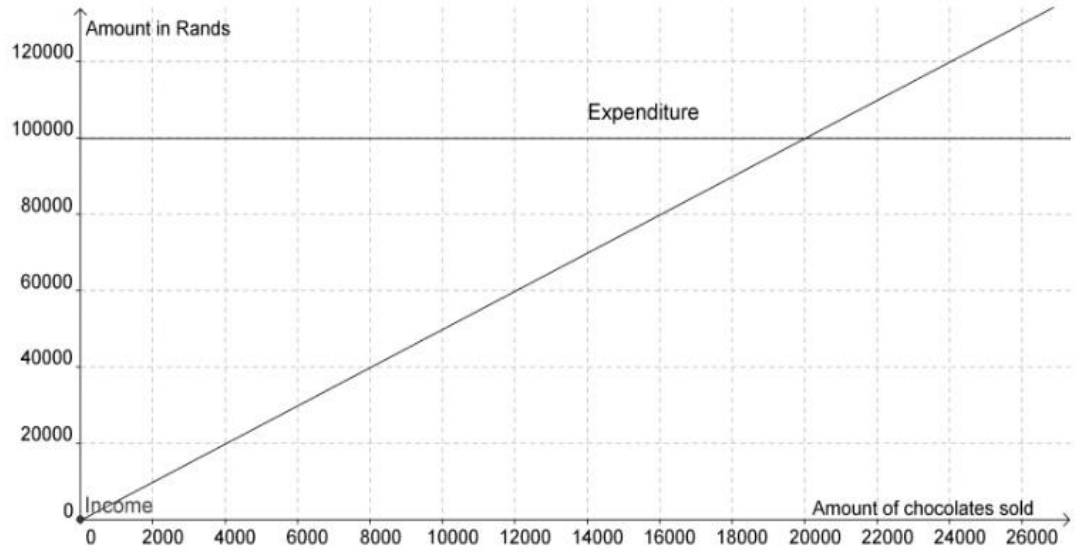


(6)

5.4 What is the break-even point of the graph? (2)

QUESTION 6

The D-vine Chocolate Company is looking at their income and expenditure to determine how they can better their business, use the graph below to answer the questions that follow:



6.1 The formula for the expenditure is y = 100000, what does this tell you about the expenditure of the company? (3)

6.2 What is the profit/loss made if they sell 12000 chocolates? (3)

6.3 What is the break-even point of the graph? (2)

6.4 How much income will come in if they sell 78000 chocolates? (3)

6.5 Calculate the profit made if they sell 24000 chocolates (3)

FINANCE

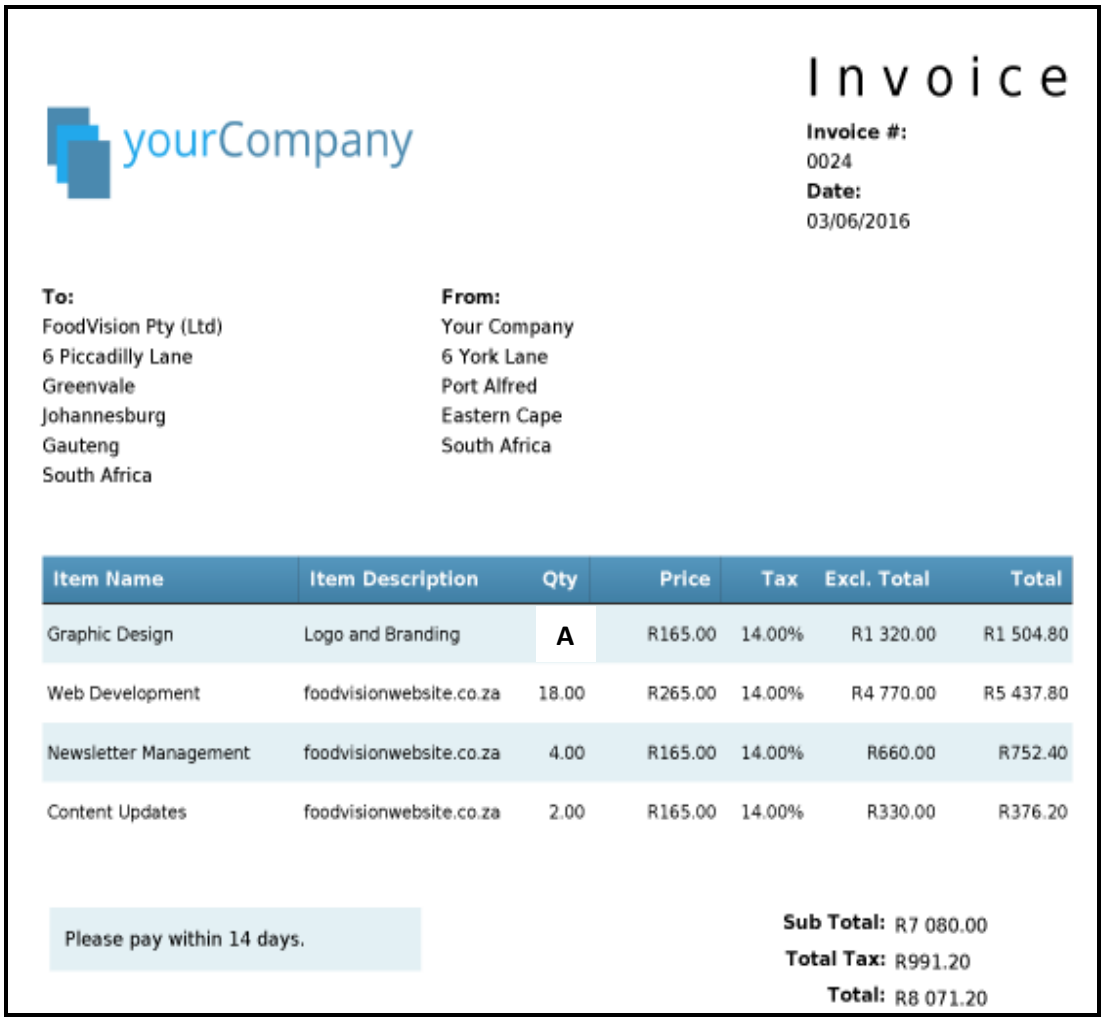
FINANCIAL DOCUMENTS

Work with documents relating to workplace and small business finance, including:

- pay slips;
- budgets;
- quotations;
- invoices;
- receipts;
- travel allowance/claim forms; banking documents

QUESTION 1

Study the invoice below and answer the questions that follow



yourCompany

Invoice

Invoice #:
0024
Date:
03/06/2016

To:
FoodVision Pty (Ltd)
6 Piccadilly Lane
Greenvale
Johannesburg
Gauteng
South Africa

From:
Your Company
6 York Lane
Port Alfred
Eastern Cape
South Africa

Item Name	Item Description	Qty	Price	Tax	Excl. Total	Total
Graphic Design	Logo and Branding	A	R165.00	14.00%	R1 320.00	R1 504.80
Web Development	foodvisionwebsite.co.za	18.00	R265.00	14.00%	R4 770.00	R5 437.80
Newsletter Management	foodvisionwebsite.co.za	4.00	R165.00	14.00%	R660.00	R752.40
Content Updates	foodvisionwebsite.co.za	2.00	R165.00	14.00%	R330.00	R376.20

Please pay within 14 days.

Sub Total: R7 080.00
Total Tax: R991.20
Total: R8 071.20

1.1 Write down the invoice date in full. (2)

1.2 Determine (**A**), the number of graphic designs were purchased on this invoice. (2)

1.3 Show by calculations how the value of R991.20 was calculated. (2)

1.4 Identify the name of a company that received this invoice. (2)

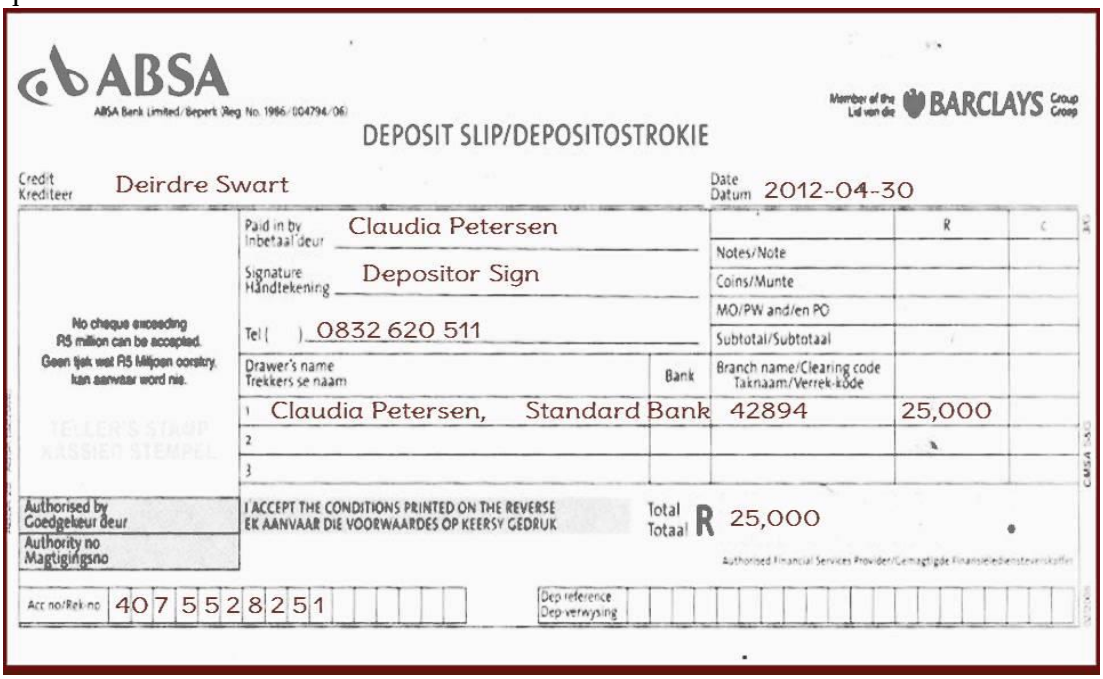
1.5 Determine in a simplified ratio the quantity of newsletter management to web development. (2)

1.6 Show by calculations, how the sub total of R7 080 was calculated (3)

1.7 In which town the company that issued the invoice be found? (2)

QUESTION 2

Below is the deposit slip for the bank. Study the deposit slip below and answer the questions that follow.



ABSA

ABSA Bank Limited/Beperk (Reg. No. 1986/004794/06)

Member of the Lid van die BARCLAYS Group Groep

DEPOSIT SLIP/DEPOSITOSTROKIE

Credit / Krediteer: Deirdre Swart

Date / Datum: 2012-04-30

Paid in by / Betaal deur: Claudia Petersen

Signature / Handtekening: Depositor Sign

Tel ( ) 0832 620 511

No cheque exceeding R5 million can be accepted.
Geen tjek wat R5 Miljoen oorstry, kan aanvaar word nie.

Drawer's name / Trekkers se naam	Bank	Branch name/Clearing code / Takknaam/Verrek-kode	R	c
1 Claudia Petersen,	Standard Bank	42894	25,000	
2				
3				

	R	c
Notes/Note		
Coins/Munte		
MO/PW and/en PO		
Subtotal/Subtotaal		

TELLER'S STAMP / KASSIER STEMPEL

Authorised by / Goedgekeur deur

Authority no / Magtigingsno

I ACCEPT THE CONDITIONS PRINTED ON THE REVERSE / EK AANVAAR DIE VOORWAARDES OP KEERSY GEDRUK

Total / Totaal R 25,000

Authorised Financial Services Provider/Gemagtigde Finansiële-dienste-verskaffer

Acc no/Rek-no: 4 0 7 5 5 2 8 2 5 1

Dep reference / Dep-verwysing

CMSA SAS

2.1 Write down depositer's name. (2)

2.2 Identify the the account number on this bank deposit slip. (2)

2.3 What was the amount that was deposit into the bank account. (2)

2.4 If the bank charges 0.93% for this deposit, determine the deposit the bank charged. (2)

QUESTION 3

Handy Hardware store receive their bank statement every month. Study the bank statement below and answer the questions that follows.

Handy Hardware Store: 081 258 2772 **27 Oliver Road** **Durban** **4006** **Bank statement No.52 Page 1 of 1**			**ABC BANK- Registered Bank:** **050 368 1425** **PO box 222** **Johannesburg** **2001** **Date of statement :01 April 2019**		
Bank statement for the period of 01 March 2019 to 31 March 2019					
Date	**Transaction**	**Ref**	**Debit**	**Credit**	**balance**
01 March 2019	Balance brought forward				3 193.00
01 March 2019	Deposit	D5000		5 000.00	8 193.00
16 March 2019	Deposit	D5001		3 000.00	**A**
31 March 2019	Cheque	106	342.00		10 851.00
31 March 2019	Cheque	107	570.00		10 261.00
31 March 2019	MMM rentals-DO	108	750.00		9 531.00
31 March 2019	Cheque	109	**B**		9 381.00
31 March 2019	Cheque	110	285.00		9 096.00
31 March 2019	Cheque	111	100.00		8 996.00
31 March 2019	Service fee	SF	**C**		8 951.00
Definition of codes	Deposits	Interest received	Cheques	Unpaid cheques	Bank charges
Co commission	8 000.00	0.00	2 197.00	0.00	45.00
DO debit order **INT interest** **SF service fee** **UC unpaid cheque**	**IMPORTANT NOTICE** ***Statement are accepted as correct unless queried within 30 days. Any cheques reflected on this statement. Which are not attached will be included with your next statement.***				

3.1 Give the bank statement period issued on this statement (2)

3.2 Explain the term balance brought forward according to the given context (2)

3.3 Give ONE reason why contact numbers are given on the bank statement (2)

3.4 Determine the value of :

a) **A**, deposit on the 16 March 2019
b) **B**, Cheque reference 109 on the 31 March 2019
c) **C**, the service fee. (6)

3.5 Identify the reference with the transactional entry amount to R570 (2)

QUESTION 4

Mr Tar is a general worker at Best Ark Academy, he receives the bank statement from his bank. Table 2 below shows the part of the statement from 1 April 2018 to 26 April 2018.
Study the table and answer the questions that follows.

Table: Savings Account Bank statement

Date	***Transaction***	***Money out***	***Money in***	***Closing balance***
01/04/2018	Balance brought forward			R3 064,08
01/04/2018	Interest		R30,64	R3 094,72
06/04/2018	Cheque(save)		R2 400	R5 494,72
10/04/2018	POS Purchase	R444,27		R5 050,45
17/04/2018	Deposit (EFT)		**A**	R5 300,45
23/04/2018	Cash withdrawal	R680		**B**
26/04/2018	Closing balance			**B**
***EFT – electronic funds transfer** ***POS – point of sale e.g. card purchase at till point**				

4.1 Determine the value of **A** and **B** the deposit and the closing balance. (2)

4.2 Calculate Mr Tar's total debits for the account statement period. (2)

4.3 Mr Tar withdraws R680 on the 23/04/218 from the ATM. Determine his bank charges for this transaction.
Bank transaction fee: R3, 00 plus R1, 20 per R100 (or part thereof). (3)

4.4 Calculate Mr Tar interest rate earned as percentage of the balance brought forward.
Use the formula : **Interest rate =** $\frac{\textit{interest amount}}{\textit{balance brought forward}} \times \mathbf{100}\%$ (3)

TARIFFS SYSTEM

You must be able to work with the following tariff systems:

- Municipal tariffs
- Telephone tariffs
- Transport tariffs
- Bank fees.

QUESTION 1

TABLE 1: Ms Elsie Jacobs wants to relocate to Polokwane while her son would be staying in Gauteng. City of Johannesburg belongs to one of the metros in Gauteng. She is checking whether she would afford life in Polokwane by comparing electricity bills.
TABLE 1: The table shows Electricity Tariff for Polokwane Municipality and City of Johannesburg.

POLOKWANE MUNICIPALITY			
RESIDENTIAL TARIFFS: Prepaid			
Energy (kWh)	Energy charge Cents/Month Summer/Winter 2017	Energy charge Cents/Month Summer/Winter 2018	Units
Block 1: (0 – 50)	83.00c	90.05c	0/kWh
Block 2: (51 – 350)	104.00c	112.84c	0/kWh
Block 3: (351 – 600)	153.00c	166.00c	0/kWh
Block 4: (> 600)	184.00c	199.64c	0/kWh
Electricity tariffs The average increase of 8.5% is as applied to the National Regulator of South Africa.			

CITY OF JOHANNESBURG			
RESIDENTIAL TARIFFS: Prepaid			
Energy (kWh)	Energy charge R/Month Summer/Winter 2017	Energy charge R/Month Summer/Winter 2018	Units
Block 1: **A**	R116.16	R124.49	0/kWh
Block 2: (501 < 1000)	R131.97	R141.43	0/kWh
Block 3: (1001 < 2000)	R141.70	R151.86	0/kWh
Block 4: (2001 < 3000)	R160.07	R171.55	0/kWh
Block 5: (< 3001)	R173.47	R185.91	0/kWh
Electricity tariffs The average increase of 7.17% is as applied to the National Regulator of South Africa.			

NB: All amounts exclude 15% VAT.
Source: Polokwane municipality & City of Johannesburg

Use the table above to answer the questions that follow:

1.1 Calculate the tariff difference in Block 4 for the year 2017 and 2018 for the City of Johannesburg. (2)

1.2 Convert the tariff amount in Block 4 for Polokwane Municipality in 2018 to rands. (2)

1.3 Write down the interval A. (2)

1.4 Calculate the VAT amount of the tariff in Block 1 for the City of Johannesburg in 2017. (2)

1.5 Identify the municipality that has the highest average increase in tariff. (2)

1.6 The City of Johannesburg has higher electricity tariffs than Polokwane, what might be the reason? (2)

QUESTION 2

Cellular data is used for e-mail, web pages, media and app downloads and for software updates. TABLE 1 indicates the biggest price differences between in-bundle and out of bundle data for different networks.

TABLE 1: DIFFERENCES BETWEEN IN-BUNDLE AND OUT OF BUNDLE DATA

CELL C	10 GB In-bundle	R599,00
	10 GB Out-of-bundle	R11 264,00
	20 GB In-bundle	R799,00
	20 GB Out-of-bundle	R22 528,00
vodacom	10 GB In-bundle	R599,00
	10 GB Out-of-bundle	R10 137,00
	20 GB In-bundle	R999,00
	20 GB Out-of-bundle	R20 275,00
MTN	10 GB In-bundle	R650,00
	10 GB Out-of-bundle	R10 137,00
	20 GB In-bundle	R1 250,00
	20 GB Out-of-bundle	R20 275,00
Telkom	10 GB In-bundle	R499,00
	10 GB Out-of-bundle	R2 969,00
	20 GB In-bundle	R899,00
	20 GB Out-of-bundle	R5 939,00

NOTE:
GB: Gigabyte (1 000 MB)
In-bundle: Using data from a data bundle bought.
Out-of-bundle: Using data without a bundle.

Use TABLE 1 to answer the questions that follow.

2.1 Calculate the amount a person saves if he buys one 20 GB in-bundle data from Telkom instead of two 10 GB in-bundle data. (3)

2.2 Using the 10 GB out-of-bundle data for both providers, compare and reflect on the cost of 120MB of Cell C and 120MB of Vodacom data. (5)