SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE
SUID-AFRIKAANSE KOMPREHENSIEWE ASSESSERINGSINSTITUUT

Adult Basic Education and Training (ABET)

Summative Assessment

Mathematical Literacy: NQF Level 1

Examination Session: June 2023

Grand Total: 100 Marks

Time: 3 Hours

Number of Pages 24 Pages

Learner Information

Candidate Number _____

Centre Name _____

Date _____

EXAMINATION RULES FOR CANDIDATES

1. Candidates are bound in all matters relating to the examination to obey the instructions of the chief invigilator. The chief invigilator, where relevant, determines the dress code.
2. Candidates must be identified before they are permitted to write an examination. Identity document must be produced when required. All candidates are to sign the attendance register.
3. Candidates will not be admitted to the examination room if they arrive an hour or more after the start of the examination. Candidates who have finished answering an examination paper within fifteen minutes of stopping time will not be allowed to leave the examination room, provided there are still candidates writing.
4. Candidates must occupy the places first allocated to them for the entire duration of the examination and for all other examination sessions, unless otherwise directed by the chief invigilator.
5. No explanation of examination questions may be asked or given by any person.
6. No candidate is allowed to leave the examination room within the first hour of the examination, except in an emergency and under supervision.
7. A candidate may only be allowed to leave the examination room in the case of an emergency or to go to the toilet, and in these cases, this must be done under supervision.
8. As soon as a candidate hands in his or her answer script, he or she must leave the examination room.
9. A candidate must carefully read and comply with the instructions, which appear in his or her question paper and the examination timetable.
10. A candidate is not allowed to assist another candidate or try to assist him or her or communicate with another candidate. Should this occur, it would constitute an irregularity. Invigilators are expressly forbidden from assisting candidates in the answering of questions.
11. All questions must be directed to the invigilator.
12. A candidate may not cause a disturbance in the examination room or behave in an improper or unseemly manner.
13. A candidate may not disregard the instructions of the invigilator or may not conduct themselves in a manner that conflicts with the instructions of the chief invigilator.
14. The following are not allowed next to the candidate in the examination room: suitcases, school bags, walkmans, CD players, cell phones, books, dictionaries, notes, sketches or paper other than the official examination material distributed by the chief invigilator. Slide-rules and non-programmable, silent calculators may be used, unless expressly prohibited in the question paper. Pens, erasers, rulers, etc. should be kept in transparent containers/bags. No borrowing is allowed. Wristwatch alarms must be switched off.
15. Candidates should be informed that the possession of notes constitutes an irregularity regardless of whether or not the notes are used. The excuse that a candidate has forgotten or was not aware that he or she has the unauthorised material listed in paragraph 14 in his or her possession will not be accepted.
16. No examination answer books (or part of an answer book), whether used or unused, may be removed from the examination room. Should this occur, it will be considered an irregularity and the candidate will receive NO credit for the examination. Should a candidate write the wrong subject or wrong grade of a subject, this will be a technical irregularity and will lead to the candidate's results being blocked/cancelled/delayed.
17. Should a candidate miss an examination due to illness, a valid doctor's certificate must be given to the chief invigilator. A Certificate will not be awarded to candidates who miss an examination.
18. Any candidate who disregards these rules or the instructions of the chief invigilator or his / her assistants, will have committed an offence in terms of the Regulations [Regulation 6 2(a) and (b)] or a contravention of the Rules [Rule 3(2)].

INSTRUCTIONS

1. Answer **ALL** the Questions in the space provided.
2. Write in blue or black pen only.
3. Calculators may be used but **ALL** calculations must be shown.
4. Round off your answers to **TWO** decimal places, unless otherwise stated.
5. Rough work can be done in the space provided on pages 22 and 23.

Question 1

1.1 Circle the letter of the correct answer.

(a) Which number is two hundred and eight million, seventy thousand and forty?

A 208 000 700 040

B 208 070 040

C 280 700 040

D 280 000 070 040

(1)

(b) The area of a square is 640 000 cm^2. The side of the square is:

A 320 000 cm

B 160 000 cm

C 800 cm

D 400 cm

(1)

(c) What is the value of 2^3?

A 9

B $2 + 2 + 2$

C $3 + 3$

D 8

(1)

(d) Which is the largest number?

A $3(5 - 10)$

B 7 + 0,989

C $3 \div \frac{1}{2}$

D $8 - 3(50 - 5 \times 10)$

(1)

(e) Which number is irrational?

A $\frac{37}{29}$

B 5,616161…

C 6,724819…

D -340

(1)

1.2 Fill in the answers to the following questions:

(a) Write as a decimal fraction: $0{,}0368 \times 10^3$.

(1)

(b) Write as a mixed number in the simplest form: 9,025.

(1)

(c) $1 \div \square = 1\frac{1}{2}$. Calculate the value of $\square$.

(1)

(d) $21 \times 36 = 756$. Use this fact to find the **remainder** when you divide **759** by 36. Show working. Do not do the division.

(1)

1.3 Round off as indicated in the following questions.

(a) Calculate $3{,}59 \div 0{,}12$. Round off the answer to the nearest whole number.

(1)

(b) Round off the numbers 3,59 and 0,12 to one decimal place.
Then do the division: $3{,}59 \div 0{,}12$, using the rounded numbers.
Round off the answer to the nearest whole number.

(1)

(c) Compare your answers to 1.3(a) and 1.3(b). Select the correct statement below.

A It is more accurate to round off at the beginning of a calculation.

B It is more accurate to round off at the end of a calculation.

(1)

[12 marks]

Question 2

2.1 Calculate the following and leave your answer in exponent form. Show working.

$3 \times 3^5 \div 3^2$

(2)

2.2 Dusu spends R372 on clothes, including 15% VAT. Calculate the amount of VAT, correct to the nearest cent. Show working.

(3)

[5 marks]

Question 3

3.1 Themba has a small building business. He has to move 18 tons of rubble from his building yard to a dump. His truck can take 5 tons per trip. The trip is 13 km one way. How many km must Themba drive to move all the rubble and return to the building yard? Show working.

(2)

3.2 It takes four of Themba's builders three days to complete a wall. How many builders would it take to complete the wall in two days? Show working.

(2)

3.3 Themba makes concrete for foundations. He mixes 4 wheelbarrow loads of cement with 8 wheelbarrow loads of sand and 12 wheelbarrow loads of stone and adds water.

(a) What is the ratio of sand to stone in Themba's concrete? Write in the simplest ratio form. Sand : stone = □ : □. Show working.

(2)

(b) How many m^3 of cement does Themba need if he wants to make 3 m^3 of dry concrete?

(3)

[9 marks]

Question 4

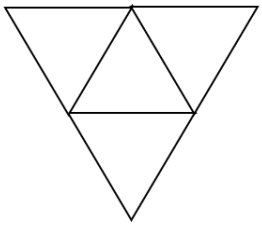
4.1 Match the name of each quadrilateral with its definition. Fill in the correct letter in the space provided.

A. Rectangle **B.** Kite **C.** Trapezium **D.** Rhombus

Definition	Quadrilateral
Only one pair of opposite sides parallel	
Only two pairs of adjacent sides equal	
All sides equal	
All angles 90^o	

(4)

4.2 Look at the net. Identify the 3D object for which this is the net. Select and circle the correct letter.



A. Square pyramid

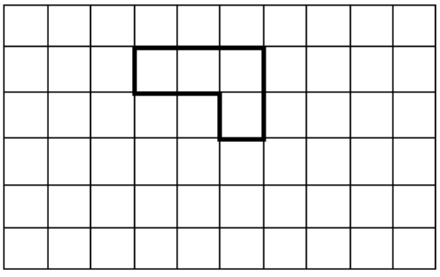
B. Star

C. Triangular pyramid

D. Triangular prism

(1)

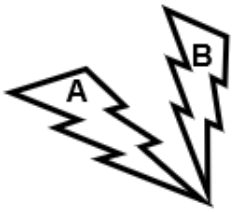
4.3 Draw the following translation of the given shape, on the same grid:



Three spaces to the right and two spaces down.

(2)

4.4 Which transformation has been done to shape A to obtain shape B?

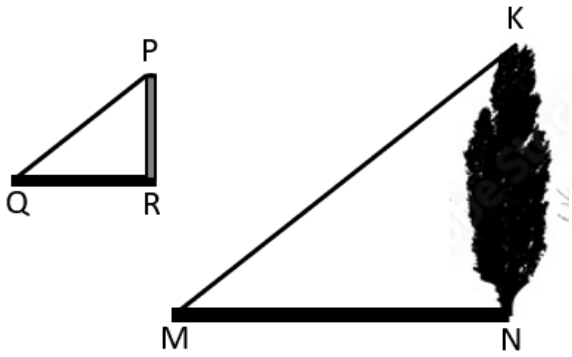


_____

(1)

4.5 Kefiloe wants to find the height of a tree, KN. The tree casts a shadow, MN = 7,8 m.

A fence pole, PR, is 0,9 m high. It casts a shadow QR = 1,35 m.



(a) Compare the size of the angles.

Circle the letter of the correct answer.

A $\hat{Q} = \hat{M}$

B $\hat{Q} < \hat{M}$

C $\hat{Q} > \hat{M}$

(1)

(b) Triangles PQR and KMN are:

Circle the letter of the correct answer.

A Congruent

B Similar

(1)

Question 4 continues on the next page.

(c) What assumption must Kefiloe make?

Circle the letter of the correct answer.

A The tree and pole are at right angles to the ground.

B The tree and pole are in the same straight line.

C The tree and pole are very close together.

(1)

(d) Calculate the height of the tree, KN. Show working.

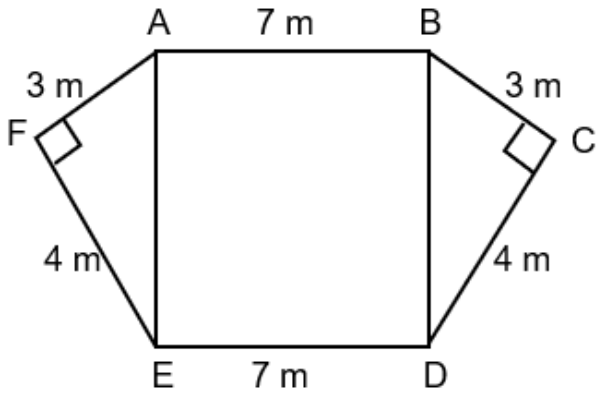
(3)

[14 marks]

Question 5

5.1 ABDE is a rectangle.

AFE and BCD are right-angled triangles.



(a) What shape is ABCDEF?

(1)

(b) Calculate the length of AE. Use the theorem of Pythagoras and show working.

(2)

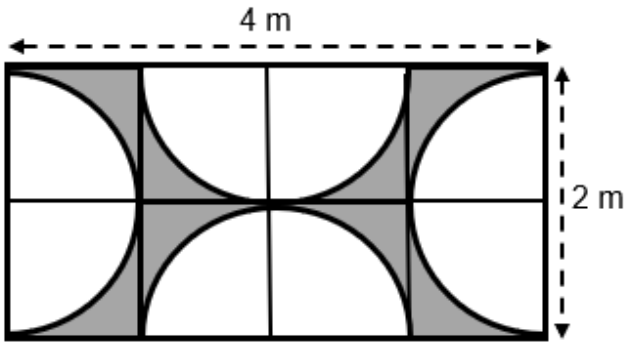
(c) Calculate the area of triangle AFE. You may use the formula:
Area of triangle = $\frac{1}{2}$ **base x perpendicular height.** Show working.

(2)

(d) Calculate the area of ABCDEF. Use your answers to questions 5.1(b) and 5.1(c). Show working.

(3)

5.2 Look at the design of circles and squares.



(a) What is the radius of one circle? _____ m

(1)

(b) What is the area of one semicircle? You may use the formula:
Area of circle $C = \pi r^2$ where $\pi = 3{,}14$. Give the answer correct to 2 decimal places. Show working.

(2)

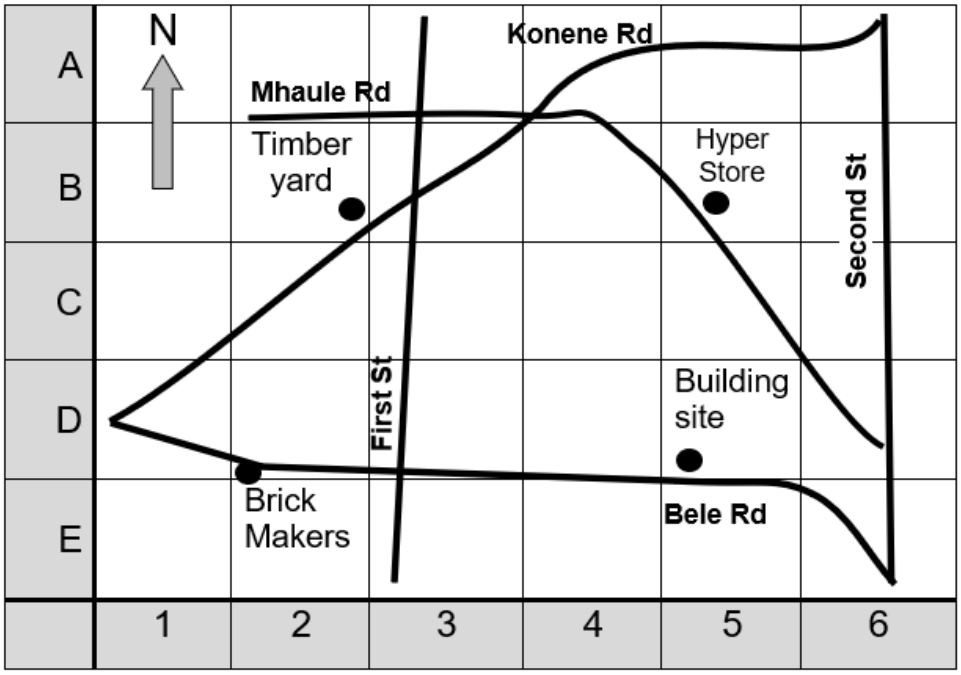
(c) Calculate the total shaded area, correct to 2 decimal places. Show working.

(3)

[14 marks]

Question 6

Refer to the map and answer the questions. The building site is in block D5.



6.1 In which block is the Hyper Store? _____

(1)

6.2 In what direction is the timber yard from the building site?

(1)

Question 6 continues on the next page.

6.3 The direct distance from the building site to Hyper Store is 1 km. Estimate the direct distance from the building site to Brick Makers, to 1 decimal place.

(1)

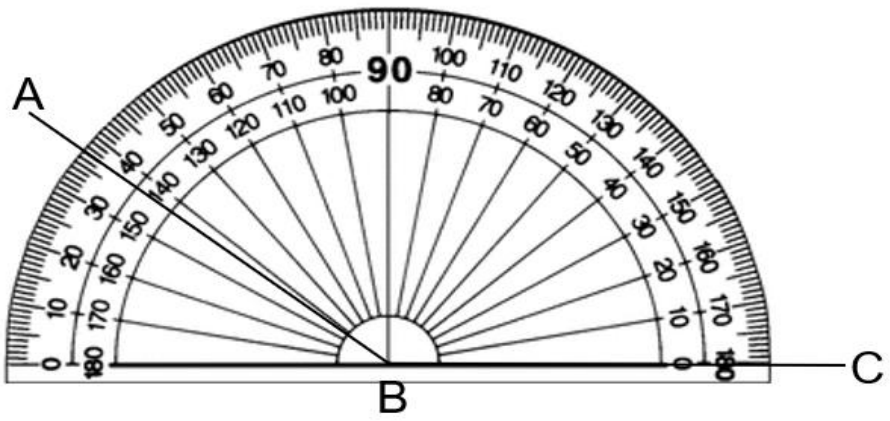
6.4 Describe the shortest route from the building site to the timber yard.

(3)

[6 marks]

Question 7

7.1

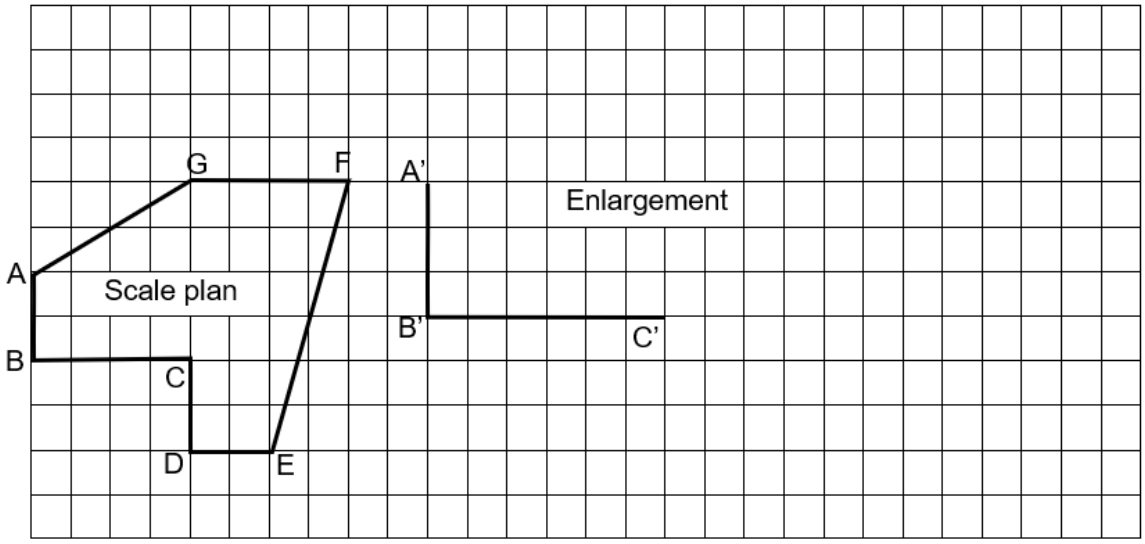


Measure the size of angle $A\hat{B}C$.

(1)

Question 7 continues on the next page.

7.2 Mandla draws a scale plan of a building. He then starts making an enlargement.



(a) Compare the lengths of AB and A'B'. Use this to determine the length of G'F'.

G'F' = _____ blocks.

(1)

(b) Complete the enlargement of the plan on the grid above.

(2)

7.3 Themba is putting a door into a building. The perimeter of the door is 6 m and its height is 2,2 m.

(a) Calculate the width of the door. Show working.

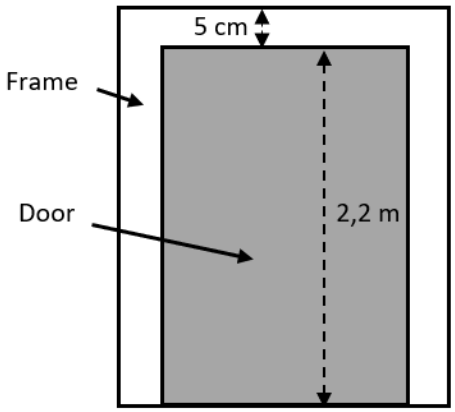
(2)

Question 7 continues on the next page.

(b) The door has a frame 5 cm wide on the top and sides.

What are the dimensions of the rectangular hole the builders must leave for Themba to fit the door and frame in?

Give the answer in cm. Show working.



Height of hole:

Width of hole:

(3)

7.4 Calculate the volume of the cylinder.

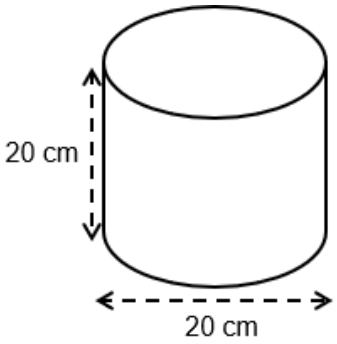
$V = \pi r^2 h$

A. $1\,000\pi\ cm^3$

B. $2\,000\pi\ cm^3$

C. $4\,000\pi\ cm^3$

D. $8\,000\pi\ cm^3$



(1)

7.5 A car travels at a speed of 110 km per hour. How long will it take to travel 385 km? Show working. You may use the formula:

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

(2)

[12 marks]

Question 8

8.1 Themba records tasks that must be done. There are 28 tasks listed.

Carpentry	Painting	Carpentry	Painting	Dumping
Plastering	Painting	Bricklaying	Dumping	Bricklaying
Painting	Bricklaying	Bricklaying	Bricklaying	Painting
Dumping	Bricklaying	Plastering	Carpentry	Plastering
Plastering	Plastering	Painting	Bricklaying	Dumping
Bricklaying	Carpentry	Plastering		

(a) Complete the tally and frequency table for the tasks listed above.

Task	**Tally**	**Frequency**
Carpentry	| | | |	4
Bricklaying		
Painting		
Dumping		
Plastering		

(3)

(b) Themba's least favourite task is dumping. He chooses a task at random. What is the probability that it is dumping? Give the answer as a fraction in the simplest form.

(2)

8.2 The table shows the mass in kg of adult male patients at a clinic.

Males (kg)
54; 55; 61; 61; 62; 65; 65; 69; 72; 73; 75; 77; 77; 78; 79; 81; 86; 88; 89; 89

(a) Complete the stem and leaf diagram for adult patients at the clinic.

Males (kg)	Tens	Females (kg)
9 9 8 6 1	8	1 5 7
	7	0 0 2 5 6 7 9
	6	1 2 3 5 5 8 8 8
	5	0 1 1 2 3 6 7

(2)

(b) Determine the mode mass of the female patients.

(1)

(c) Determine the range in mass for all the patients. Show working.

(2)

(d) Determine the median mass of the male patients.

(1)

(e) Determine the mean mass of those male patients with a mass of between 60 kg and 80 kg, correct to one decimal place. Show working.

(3)

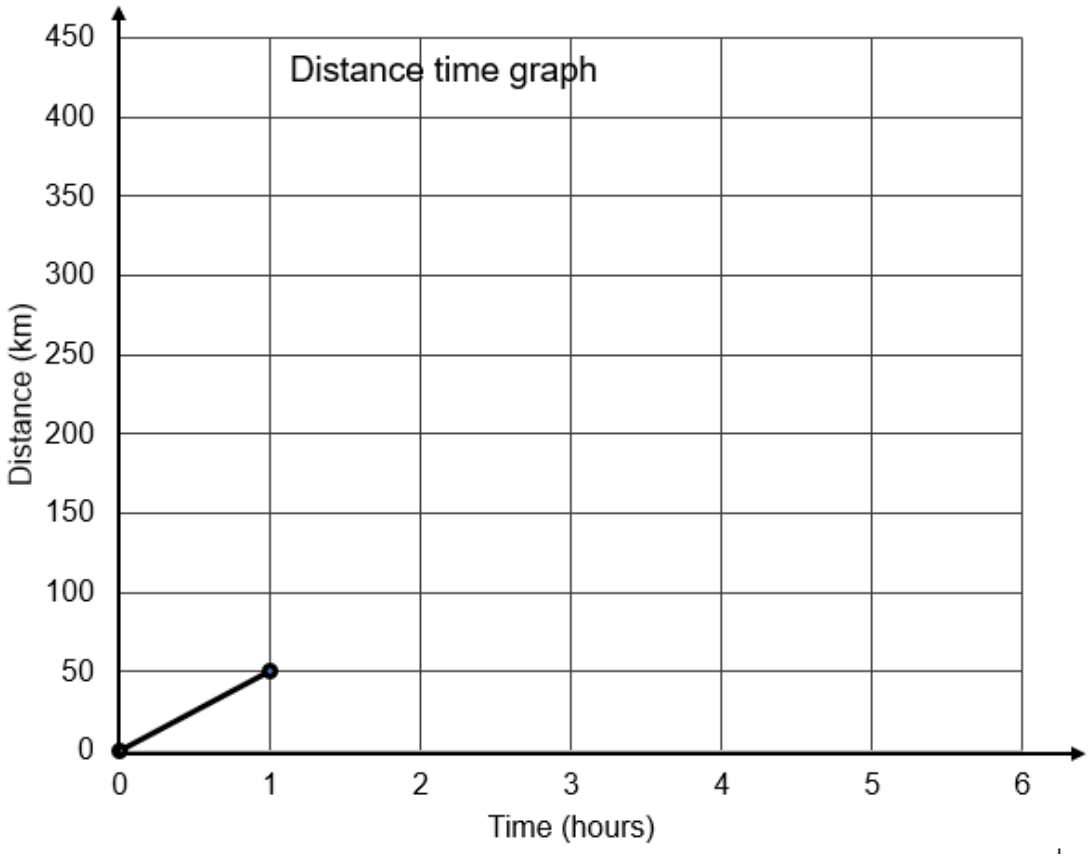
[14 marks]

Question 9

Sibusiso keeps a record of his trips. He records the distance he travels and the time it takes him.

Time (hours)	1	2	3	4	5
Distance (km)	50	150	200	400	350

9.1 Sibusiso represents the distance and time in a line graph. Complete the graph.



(3)

9.2 What was the total distance Sibusiso covered?

_____

(1)

Question 9 continues on the next page.

9.3 Select the correct statement:

A. The trip of 400 km took a longer time than the trip of 350 km.

B. The trip of 350 km took a longer time than the trip of 400 km.

(1)

9.4 Give one possible reason for your answer in 9.3.

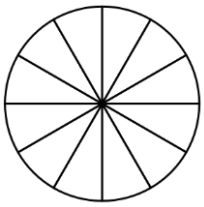
_____

(1)

[6 marks]

Question 10

10.1 Gugu interviews people at work to find out their favourite food. She draws a pie chart with 12 equal sections.



(a) How many sections of the pie chart represent one-quarter of the people? Show working.

_____

_____

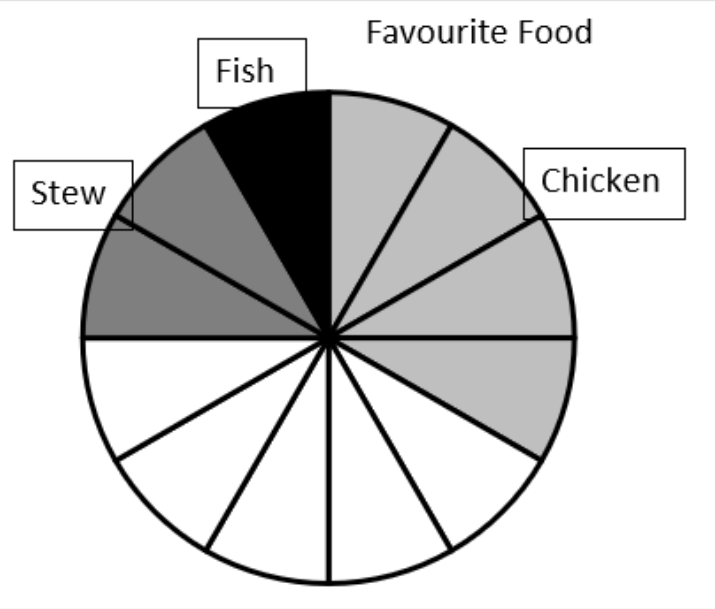
_____

(2)

Question 10 continues on the next page.

(b) Use Gugu's table to complete the pie chart. Include labels.

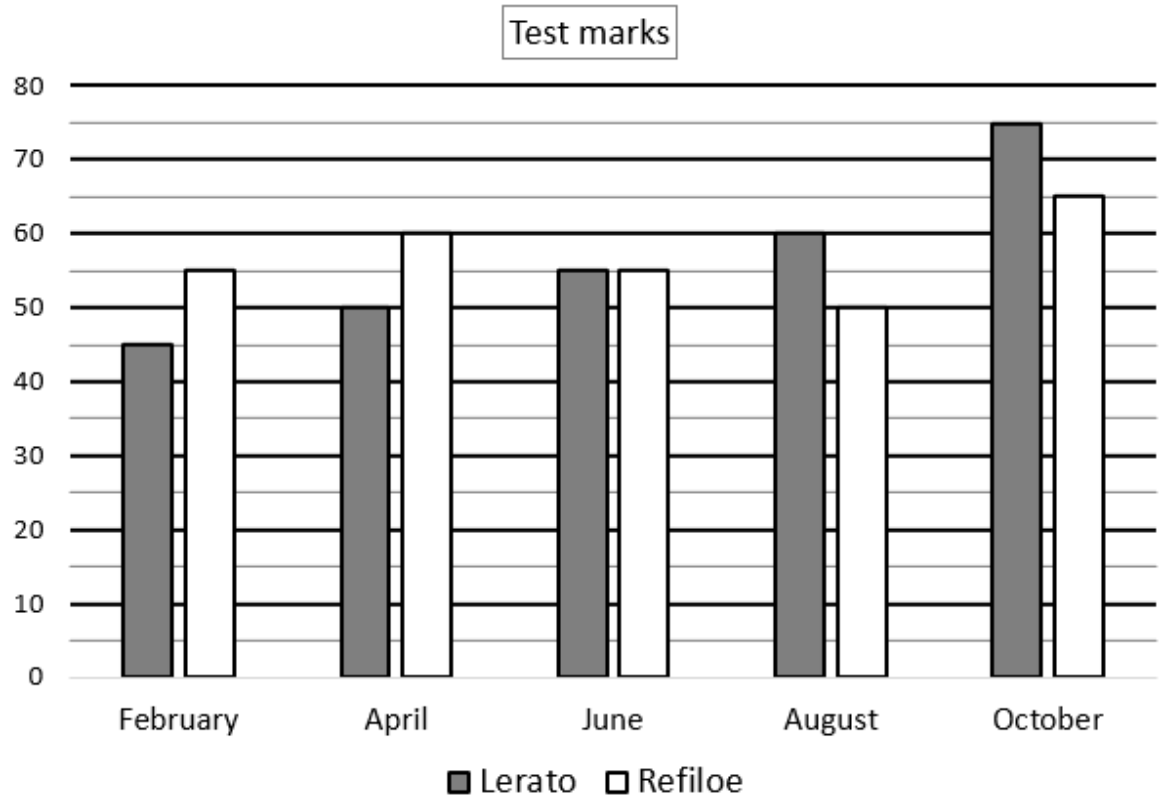
Favourite food	Chicken	Stew	Fish	Steak	Wors
	8	4	2	4	6



(3)

Question 10 continues on the next page.

10.2 The double bar chart shows the test marks for two learners, Lerato and Refiloe.



(a) Circle only the letters of the statements that are true.

A. Lerato's marks increased each time.

B. Lerato and Refiloe never got the same marks for a test.

C. Both learners got their best marks in October.

(1)

(b) Determine the percentage increase in Lerato's marks from August to October. Show working.

(2)

[8 marks]

GRAND TOTAL: 100 MARKS

END OF EXAMINATION

Rough work

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Question	Maximum Mark	Learner's Mark
1	12	
2	5	
3	9	
4	14	
5	14	
6	6	
7	12	
8	14	
9	6	
10	8	
Total	100	
Percentage		
Final Grading		

Name and Surname of Marker **Date of Marking**

Name and Surname of Moderator **Date of Moderation**

Name and Surname of Umalusi Official **Date of Moderation**