



University of Fort Hare  
*Together in Excellence*

BACHELOR OF EDUCATION: FOUNDATION PHASE  
TEACHING (GET BAND)  
COURSE CODE: 50045

Module: Mathematics Education 4 - IsiXhosa- English

Module code: **MEX 414E**

Time: 3hrs

Date: June 2023

Marks: 100

This paper consists of 11 pages including the cover page

**Internal Examiner**

Dr N. Ngibe

**Internal Examiner**

Ms N. Bambiso

**External Examiner**

Ms T. Hlam

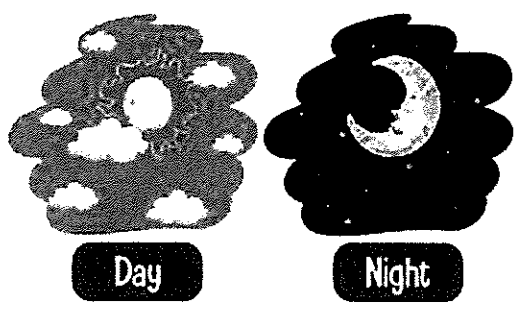
**INSTRUCTIONS**

1. Please read the instructions carefully.
2. Answer all the questions. You can use the last page for your rough work, and please mark it rough work.
3. This is a bilingual (IsiXhosa-English) module. Therefore, you can use any of the two languages to answer the questions, but use one language for a question, unless instructed to use both languages in one question.

Say whether the following statements are True or False. Write T for True and F for False, and justify your choice.

**Xela ukuba ezi ngxelo zilandelayo ziyinyaniso na okanye aziyo nyaniso. Bhala u T xa ziyinyaniso, ukuze abhale F xa zingeyonyaniso.**

- 1.1. The concept 'Fraction' in Mathematics means dividing the number. (2)
- 1.2. The place value for 3 in 2 342 is 300. (2)
- 1.3. The multiples of 10 are: 2, 4, 6, 8, 10 (2)
- 1.4. One of the content areas of mathematics is Geometric Patterns (2)
- 1.5. A cube is a 3D shape with four sides. (2)
- 1.6. Perimeter is volume of a rectangular prism. (2)
- 1.7. The poster that appears below can be used to teach a topic under the content area, Space and Shape (Geometry). (2)



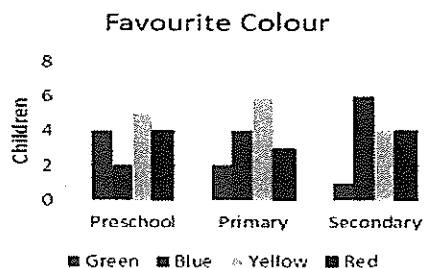
1.8. From the grouped bar chart below, the total number of learners in preschool is

Fifteen

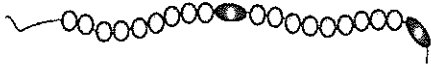
(15)

(2)

**GROUPED BAR CHART: Grouped into broad age groups**



1.9. Ms A's class counts the number of the beads joined in a string below. Learners count out the beads loud emphasizing the tenth bead. (2)



1.10.

	1							
		2						
				4				
								8

Following the sequence of numbers in the table above, the following three numbers to follow are: 16; 32; 64. (2)

**QUESTION 2****[20]**

2.1. Using the concept of **doubling** to calculate the following:

**Usebenzisa I 'doubling' , bala u:**

2.1.1.  $65 + 66$

(2)

2.1.2  $31 + 35$

(2)

2.2. What will be your memorandum for the following task?

**Bhala imemorandum yale misebenzi ilandelayo:**

2.2.1. Add  $355 + 39$  (using different counting strategies such as:

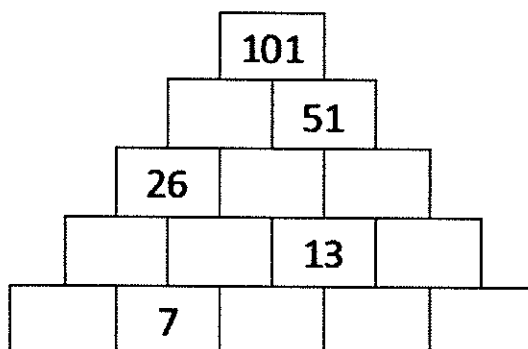
**Dibanisa u  $35 + 39$  (usebenzisa indlela ezohlukileyo zokubala) ezifana nezi zilandelayo:**

(a) Breaking down of numbers (5)

(b) Jump strategy (3)

2.2.2 Complete the pyramid that follows: (10)

**Gqibezela le pyramid ilandelayo ngokuthi ugqwalise iibhokisi ezingenamanani.**



2.3.  $243 - 126 = 117$

How do you get to the answer in 2.3? Explain to your Foundation Phase class. Explain each step if possible.

**Uyicacisa njani indlela ofikelele ngayo kwimpendulo eku 2.3.?**

Hint: Use the place value method as well as the breaking down of number strategy.

**Cacisa usebenzisa ixabiso lendawo okanye ukucazulula amanani.**

Place value

(3)

Breaking down

(5)

**QUESTION 3**

**[22]**

**Table 1: GRADE 3 CONTENT OVERVIEW**

GRADE 3 OVERVIEW DATA HANDLING				
Topics	TERM 1	TERM 2	TERM 3	TERM 4
Collect and organise data	<p><b>Recommended:</b> Whole data cycle to make bar graph.</p> <p>Collect data about the class or school to answer questions posed by the teacher.</p>		<p><b>Recommended:</b> Re-organise data provided in a list or tally or table in a bar graph.</p> <p>Represent data on bar graph.</p>	
Represent Data	<p>Use tallies to record data in categories provided.</p> <p>Represent data in</p> <ul style="list-style-type: none"> <li>• Tables</li> <li>• Bar graphs</li> </ul>	<p>Analyse data from representations provided.</p> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>• At least one pictograph with one-to-one correspondence</li> <li>• At least one bar graph</li> </ul>	<p>Answer questions about data on bar 5.5 graph</p>	<p>Analyse data from representations provided.</p> <p><b>Recommended</b></p> <ul style="list-style-type: none"> <li>• At least one pictograph with one-to-one correspondence</li> <li>• At least one bar graph</li> </ul>
Analyse and Interpret data	<p>Talk about and <b>answer</b> questions about data in tables and bar graphs.</p>			

(Department of Basic Education, 2011)

3.1. Referring to the content provided in the table above, plan a Grade 3 lesson on how to represent data in a bar graph.

**Usebenzisa Umxholo obandakanywe apha ngasentla, lungisa isifundo sebanga lesithathu ngokubonakalisa idata kwi bar grafu.**

**Activity:** You asked your learners at Duncan Village Primary School about their birthday months. The information below shows the data that you collected.

January: █; December: █; November: █; July: █; September: █; February: █; April: █ June: █; May: █; March: █; August: █; October: █

**Ubuze abantwana base Duncan Village Primary School ngeenyanga zabo zokuzalwa. Ulwazi oluqokeleleyo luboniswe apha ngasezantsi:**

January: █; December: █; November: █; July: █; September: █; February: █; April: █ June: █; May: █; March: █; August: █; October: █

3.1.1. Draw the bar graph representing the data. (5)

**Zoba ibar grafu ebonisa ulwazi oluqokeleleyo.**

3.1.2. Interpret the graph (2)

**Yicacise igrafu.**

3. 2. Plan a lesson on how to represent data in a bar graph, using the information above.

**Cwangcisa isifundo ngokubonisa ulwazi oluqokelelweyo kwi bar grafu.  
Sebenzisa olu lwazi lungasentla.**

Your lesson plan should include the following:

Aim/s: (2)

Introduction (2)

Lesson development with 2 stages: (5)

Conclusion: (2)

Assessment (4)

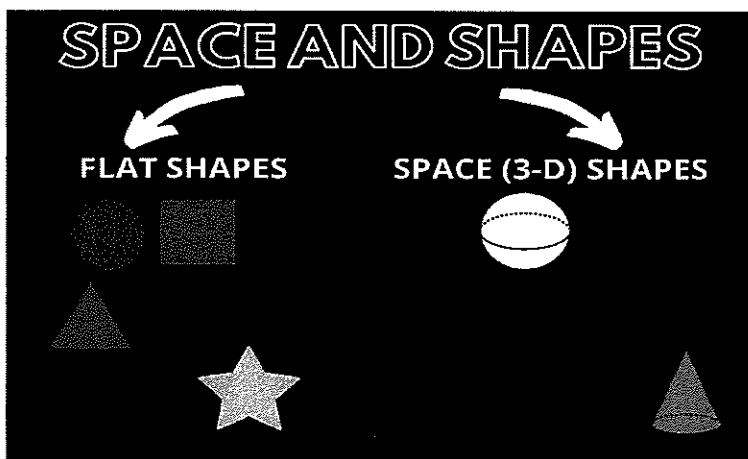
## QUESTION 4

[18]

Included in the figure below are 2Dimensional (2D) shapes and 3D objects. Answer the questions that follow.

**Kulo mzobo ungasezantsi kubandakanywe iimilo ezingu 2D nezingu 3D. Phendula le mibuzo ilandelayo.**

**Figure 1: SHAPES**



4.1. You show the posture above to your Grade 2 learners, and ask them to identify a rectangle and a square, and they chose the correct shapes. You ask them to justify the answers. Below are some of the responses:

**Ubonisa abafundi bebanga lesibini le posta ingasentla, ubacele ukuba bachonge uxande nesikwere, baphinde bathethelele iimpendulo zabo. Abafundi bachonge iimilo ezichanekileyo, baza bathethelela iimpendulo zabo ngolu hlobo lulandelayo:**

- 1. Rectangle because it is a rectangle*
- 2. Rectangle because it is like a door*
- 3. Square because it has 4 sides and 4 corners.*
- 4. Both square and rectangle have four sides and four corners, but in the rectangle, 2 opposite sides are equal.*

4.1.1. According to Van Hiele (1957), in which level of geometric thinking do statements stated from 1 to 4 above belong and why? (8)

4.1.2. How do you differentiate a square and a rectangle from other quadrilaterals? (1)

4.2. How do you differentiate a cylinder from a cone?

4.2.1 Cylinder (3)

4.2.2. Cone (3)

**QUESTION 5**

**[15]**

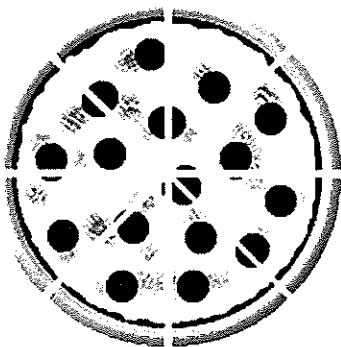
5.1. The teacher showed the learners the following picture of the pizza. She asked them if they would rather have  $\frac{1}{2}$  or  $\frac{1}{8}$  of the pizza. The children said they wanted  $\frac{1}{8}$  of the pizza.

Answer the questions that follow.

**Umfundisi ntsapho ubonisa abafundi lo mfanekiso we pizza ulandelayo. Ubuza abafundi ukuba bangakhetha ukuba ne  $\frac{1}{2}$  okanye  $\frac{1}{8}$  ye pizza. Baphendule abafundi bathi bafuna  $\frac{1}{8}$  ye pizza.**

**Phendula imibuzo elandelayo.**

**Figure 2: Pizza**



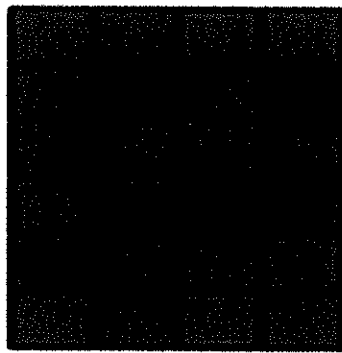
5.1.1. What do you think about answer given by the learners? (2)

5.1.2. Provide one practical example that you would do in the Foundation Phase class so the children understand the concept of fractions. Please be specific. Give enough detail so that the activity is clear. (4)

5.2. Given the figure below, answer the questions that follow.

**Unikwe lo mfanekiso ungasezantsi, phendula imibuzo elandelayo.**

**Figure 3: Rectangle**



- 5.2.1. How many blocks are in the above rectangle? (1)
- 5.2.2. What fraction of this grid is green? (1)
- 5.2.3. What fraction is blue? (1)
- 5.2.4. What fraction is red? (1)
- 5.2.5. Which color makes up half of the rectangle? (1)
- 5.2.6. Why? (1)
- 5.2.7. Without using the formula (Area =  $l \times b$ ),
- 5.2.7.1. Find the area of the rectangle in figure 4. (1)
- 5.2.7.2. How did you get to the correct answer? (2)

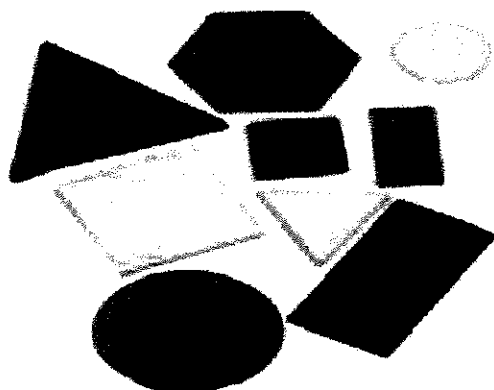
5.3. As a grade R teacher, you requested your learners to do sorting.

Answer the questions that follows:

**Ungumfundisi ntsapho webanga labaqaqayo, wacela abafundi ukuba bahlele iimilo.**

**Phendula imibuzo elandelayo.**

**Figure 4: 2D SHAPES**



5.3. Name three different ways in which your Foundation Phase learners can sort the shapes above.

**Nika iindlela zibe ntathu ezinokusetyenziswa ngabafundi bamabanga aqalayo ukuhlela iimilo ezingasentla.**

Number your answers as follows:

5.3.1. (1)

5.3.2. (1)

5.3.3. (1)

