



UNIVERSITY OF JOHANNESBURG
FACULTY OF EDUCATION
NOVEMBER EXAMINATION 2014

PROGRAMME: B Ed FOUNDATION PHASE
MODULE: MATHEMATICS FOR THE FOUNDATION PHASE 3B
CODE: MFP3B10
TIME: 3 HOURS
MARKS: 130
EXAMINERS: Mr J Maseko
MODERATORS: Dr. K. Luneta

(This paper consists of 4 pages)

INSTRUCTIONS:

1. Read each question carefully before answering it.
2. Answer all the questions.
3. Questions can be answered in any sequence but ensure that you clearly number your answers.
4. NO CALCULATORS ALLOWED

QUESTION 1

Given the sets:

Universal set, $U = \{\text{Positive integers less than 22}\}$

$A = \{\text{Natural numbers less than 9}\}$

$B = \{\text{Multiples of 3 less than 15}\}$

$C = \{\text{Numbers divisible by 4 less than 21}\}$

1.1 Draw a Venn diagram to represent the above information. (10)

1.2 Find the set representation of:

i. $(A \cup B \cup C)'$ (3)

ii. $(B \cup C)' \cap A$ (3)

iii. $(A \cap C) \cup (B \cup C)'$ (4)

QUESTION 2

2.1 Complete each sequence:

2.1.1 7, 11, 15, 19, (2)

2.1.2 128, 64, 32, 16, (2)

2.1.3 8, 11, 15, 20, (3)

2.2 Calculate the first three terms using the rule

2.2.1 $T_n = 3^n + 1$ (3)

2.3 Write a rule for the n th term of the sequence: 4, 8, 16, 32, (5)

Then find T_7

2.4 Calculate:

2.4.1 $40 \div (4 - (10 - 8))$ (3)

2.4.2 $4\frac{3}{9} \times 3\frac{3}{4} \div \frac{15}{36}$ (5)

2.4.3 $2 + 1\frac{2}{3} - \frac{3}{4}$ of $1\frac{1}{4} \div 3$ (5)

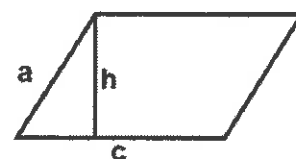
QUESTION 3

If $a = 5$ cm; $c = 8$ cm and $h = 4$ cm, find the

3.1 Name of the figure (1)

3.2 Perimeter (4)

3.3 Area (5)



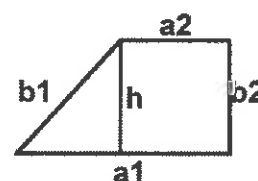
If $a_1 = 8.6$ cm; $a_2 = 4.4$ cm; $b_1 = 6.21$ cm; $b_2 = 4.6$ cm and $h =$

4.6 cm, find the

3.4 Name of the figure (1)

3.5 Perimeter (4)

3.6 Area (6)

**QUESTION 4**

4.1 Locate the following ordered pairs on the coordinate plane, and write the coordinates. (10)

A B

E O

X

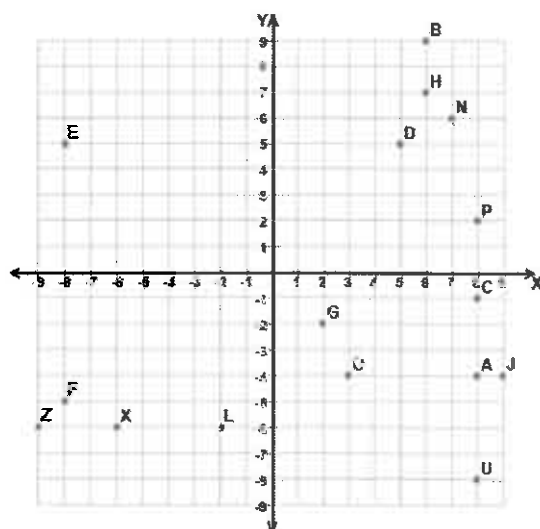
4.2 Join points E, F with two others points to form a **square** involving two other quadrants. Draw it on the grid. (6)

4.3 Write the coordinates of the **four** points forming the square. (4)

1 2

3 4

4.4 What is the size of $\angle PAO$? (2)



QUESTION 5

Given that the following were the marks attained by a grade 2 class out of 10:

7 5 6 4 5 3 4 2 6 5 4 1 7 1 9 5 1 1 2 2 2 3 2 4 6 7 7 8 6 6 6 8 6 9 9

- 5.1 Draw a frequency table to represent this information (4)
- 5.2 Find the Mean mark (2)
- 5.3 Find the Modal mark (2)
- 5.4 Find the Median of the marks (2)
- 5.5 Find the Range of the mark (2)
- 5.6 The table gives data about 7 animals the grade 3 learners have seen in real life

Animal	Bat	Goat	Dog	Eagle	Fish	Cat	Horse
Seen	5	10	25	5	5	15	10

- 5.6.1 Use this information to draw a line graph. (4)
- 5.6.2 Use the graph to indicate where the school is located – farm, township or suburb and explain your choice (3)

QUESTION 6

Topic: Build 3-D objects using concrete materials

Grade - 2

Outcomes - Build 3-D objects using concrete materials

Use the frame **below** to create a lesson plan

- Duration:** _____ (how many periods in minutes) (1)
- Resources:** at least five relevant resources (5)
- Lesson Introduction:** (two key points) (2)
- Input and implementation phase:** Step-by-step procedure on teaching and facilitation (main and summary section): (6)
- Assessment:** (provide 5 questions task) (6)

END OF EXAMINATION

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TOTAL: 100