



SCHOOL	SCHOOL OF EDUCATION		
DEPARTMENT	INTERMEDIATE AND VOCATIONAL EDUCATION		
SUBJECT	MATHEMATICS EDUCATION 2A		
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DURATION	3 HOURS	MARKS	100
LECTURERS	MR J.I. SHIVUTE; DR.F. VATILENI; DR F.N. HAIMBODI; MR BM SIMASIKU		

SECOND OPPORTUNITY EXAMINATION

Examiner: Mr. B.M Simasiku (University of Namibia)

External Moderator: Dr Mzwandile Wiseman Zulu (University of KwaZulu-Natal)

INSTRUCTIONS

1. This paper consists of 4 pages including the cover page.
2. Answer ALL the questions.
3. Section A (20 marks) and Section B (80 marks).
4. Number your questions correctly.
5. Read the questions carefully before you answer.
6. Please note that cheating in the examination will result in a fail.
7. POCKET CALCULATORS ARE NOT ALLOWED

Section A

Answer the following multiple choice questions by only writing the correct letter e.g. A.

1.1 Which number is the largest?

- A. $\frac{1}{2}$ B. $\frac{2}{3}$ C. $\frac{3}{4}$ D. $\frac{4}{5}$ E. $\frac{5}{6}$ [2]

1.2 The value of $0.75 + \frac{1}{5} \times 2\frac{1}{3}$ is

- A. $\frac{33}{60}$ B. $\frac{43}{60}$ C. $\frac{53}{60}$ D. $\frac{63}{60}$ E. $\frac{73}{60}$ [2]

1.3 Which of the fraction lies between $\frac{1}{2}$ and $\frac{2}{3}$?

- A. $\frac{17}{24}$ B. $\frac{1}{3}$ C. $\frac{1}{4}$ D. $\frac{7}{12}$ E. $\frac{3}{4}$ [2]

1.4 $12.34 + 1.234$ equals

- A. 13.574 B. 14.68 C. 12.4634 D. 124.634 E. 146.80 [2]

1.5 The population of a country is 40 million. 60 % of the population is 25 years younger.

The number of people in the country over 25 years of age is

- A. 16 million B. 20 million C. 25 million D. 30 million E. 35 million [2]

1.6 $0.9(0.4 + 0.6)$ equals

- A. 0.09 B. 0.96 C. 1.9 D. 9 E. 0.9 [2]

1.7 If $141 \times \approx 39 = 9399$ then $2.41 \times \approx 3.9$ is equal to

- A. 0.09399 B. 0.9399 C. 9.399 D. 93.99 E. 939.9 [2]

1.8 The fuel consumption of a car is given as 8 l/100km. This consumption expressed in km/l is

- A. 12.5 B. 16 C. 0.8 D. 20 E. 80 [2]

1.9 In a group of people, the ratio of men to children is 3:5 and the ratio of men to women in the group is 5: 8. The ratio of women to children is.....

- A. 1:1 B. 3:8 C. 8: 13 D. 24:25 E. 3:5 [2]

1.10. In the history of fractions, which ancient culture is acknowledged for using unit fractions?

- A. Egyptian B. Hindus C. Chinese D. Romans E. Greeks [2]

/20/

SECTION B

Answer all questions in this section.

1. Write the following fractions in simplest form. Show your working.

(a) $\frac{40}{200}$ [2]

(b) $\frac{125}{1000}$ [2]

2. Convert $\frac{7}{25}$ to a decimal fraction and explain your working. [5]

3. Draw an area model and a set model to represent each of the following fractions:

(a) $\frac{1}{3}$ [2]

(b) $\frac{3}{8}$ [2]

4. Explain the following concepts

(a) Fractions in terms of a linear context. [2]

(b) Recurring Decimal fractions [2]

(c) Proper Fractions. [2]

5. Explain how you will teach Grade 7 learners to convert terminating decimals to common fractions. Use at least five examples. [10]

6. Use the standard method and area models to work out the following:

(a) $\frac{1}{4} + \frac{1}{3}$ [5]

(b) $\frac{2}{3} \times \frac{1}{2}$ [5]

7. Simplify

(a) $\frac{x+2}{x-4} \div \frac{x+2}{x-5}$ [2]

(b) $\frac{2}{(x+1)(x+2)} - \frac{1}{x+1}$ [4]

8. Solve the following equations:

(a) $\frac{2x}{3} = 12$ [3]

(b) $\frac{5}{x+1} = \frac{6}{3x-2}$ [4]

9. Explain what is meant by inverse proportion. [8]

10. Create a direct proportion question and solve it using two different methods. [4]

11. Solve the following problems:

(a) The ratio of the number of pies to the number of cakes to the number of buns is 3:1:4. If the total number of pies, cakes and buns is 80, how many more buns than cakes are there? [5]

(b) A boat is sold for N\$ 20 000. This represents a profit of 5% to the seller. What did the boat originally cost the seller. [5]

12. Grade 7 learners were asked to find 35% of N\$80. Joseph, one of the Grade 7 learners, worked out the problem by breaking into 10%, 20% and 5%. He then converted the percentages into fractions and worked it as follows:

$$10\% \text{ of N\$80 is } \frac{1}{10} \times \text{N\$80} = \text{N\$8},$$

$$20\% \text{ of N\$80 is } \frac{1}{20} \times \text{N\$80} = \text{N\$4},$$

$$5\% \text{ of N\$80 is } \frac{1}{5} \times \text{N\$80} = \text{N\$17}, \text{ Answer: N\$29.00}$$

Explain Joseph's reasoning and decide on the accuracy of his answer. [6]

/80/

END