



education

Department:

Education

PROVINCE OF KWAZULU-NATAL

ZULULAND DISTRICT: GENERAL EDUCATION AND TRAINING (GET)

Helping Our Schools Transform Little People into Future Giants

GRADE 09

MATHEMATICS

MARCH TEST

2024

Marks : 50

Duration : 1 hour

Read the following instructions carefully before answering the questions:

1. This question paper consists of **7 pages** including the cover page.
2. This question paper consists of **FIVE** questions. Answer **ALL** questions.
3. Clearly show **ALL** calculations that you have used in determining your answer.
4. Answer Questions 2 – 5 in the spaces provided.
5. Answer only will not necessarily be awarded full marks.
6. An approved scientific calculator (non-programmable and non-graphical) may be used, unless stated otherwise.
7. Write neatly and legibly.

Circuit	
School Name	
Class (e.g. 9A)	
Name & Surname	

Section A

Question 1

[10]

Four options are provided as answers to the following questions. **Circle** the letter corresponding to correct answer.

- 1.1. Which **ONE** of the following numbers is irrational? (1)
- A $-\sqrt{3}$
- B $\sqrt{2\frac{7}{9}}$
- C 3,9
- D $\sqrt[3]{-27}$
- 1.2. Which of the following option best represent 72 as a product of its prime factors? (1)
- A 8×9
- B $8 \times 3 \times 3$
- C $24 \times 3 \times 1$
- D $2 \times 2 \times 2 \times 3 \times 3$
- 1.3. Between which two consecutive integers is the $\sqrt[3]{181}$? (1)
- A 4 and 5
- B 7 and 8
- C 6 and 7
- D 5 and 6
- 1.4. Which of the following given numbers is not an integer? (1)
- A 5,5
- B 0
- C -153
- D 1500
- 1.5. What is the value of $\sqrt{7^2} + \sqrt[3]{8}$? (1)
- A. 53
- B. 49
- C. 9
- D. 51

1.6. $4^{-2} \times 2^{-3} \times 8^0 =$ (1)

A $\frac{1}{16}$

B $\frac{1}{128}$

C $\frac{1}{64}$

D $\frac{1}{256}$

1.7. What is the value (in scientific notation) of $3,7 \times 10^{-4} \times 5,2 \times 10^{-3}$? (1)

A 1924×10^{-4}

B 1924×10^{-3}

C $192,4 \times 10^{-5}$

D $1,924 \times 10^{-6}$

1.8. Determine the next term in the number pattern given: (1)

8; 13; 18; 23; 28; _____

A 30

B 33

C 32

D 29

1.9. 2; 8; ____; 128; 512; 2 048; 8 192. Find the missing number. (1)

A 32

B 20

C 16

D 14

1.10. In the table below, what are the values of A and B if the rule is $-3t + 4$? (1)

Input	-3	-1	0
Output	13	A	B

A 10 and 5

B -10 and -5

C 7 and 4

D -7 and -4

Section B**Question 2****[10]**

2.1. Give the term/concept that describes the following:

2.1.1. A number that divides exactly into a number and leave no remainder. (1)

2.1.2. A number with two factors only. (1)

2.1.3. A number which is multiplied by itself and multiplied by itself again. (1)

2.2. Use prime factorisation to find LCM of 300 and 475. (3)

2.3. Bigger is travelling 640 km in 10 hours and Brown is travelling 360 km in 6 hours. Who is travelling slower between them? (4)

Question 3**[08]**

Determine without using a calculator. (Show all your workings).

3.1. $-4(-5) + 2(3 \times (-6)) + 0$ (2)

3.2. $-\frac{42}{7} + 5(-2) - 3$ (2)

3.3. $\sqrt{\frac{81}{9}} - \sqrt{4}(\sqrt[3]{-125})$ (4)

Question 4 [12]

4.1. Solve the following exponential problems without using a calculator.

4.1.1. $2^4 \times 2^4$ (2)

4.1.2. $\frac{\sqrt{169x^6} \times \left(\frac{y}{p^{99}q}\right)^0}{\sqrt[3]{x^{12}}}$ (3)

4.1.3. $\left(\frac{2x^{-1}y}{3y^2}\right)^{-2}$ (4)

- 4.2. Determine the value of $5,3 \times 10^{-4} + 1,4 \times 10^{-3}$ and present your answer in expanded notation, without using a calculator. (3)

Question 5 [10]

Given the pattern $-5; -2; 1; 4; \underline{\hspace{2cm}}$

- 5.1. Determine a general mathematical rule to determine any term in the above pattern. (3)

- 5.2. Use your rule to determine the 60th term in the pattern. (3)

5.3. Which term in the pattern will be equal to 55? (4)
