LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

# VHEMBE DISTRICT

## GRADE 8

**MATHEMATICS P1**

**TERM 4 EXAMINATION PAPER**

**2023 NOVEMBER**

**MARKS: 60**

**TIME: 2 HOURS**

**This question paper consists of 6 pages including the cover page**

**Instructions:**

1. Read the questions carefully before answering.
2. Answer all questions.
3. Show all the working steps.
4. Answer question 7 on the grid paper provided on the last page of your question paper. Remove the grid paper from your question paper and submit it together with the answer book.

## QUESTION 1 MULTIPLE CHOICE [7 MARKS]

1. Answer the following questions by choosing the correct answer e.g.1.1. C

1.1. Solve for x in $\frac{8}{x} = 2$

A. 2 B. 4 C. 8 D. 10 (1)

1.2. Simplify $\sqrt[3]{27} + 3^2$ (1)

A. 36 B. 9 C. 12 D. 15

1.3. Convert $\frac{2}{5}$ into percentage (1)

A 40% B. 50% C. 20% D. 80%

1.4. In scientific notation $150\,000$ will be written as: (1)

A. $15 \times 10^5$ B. $0{,}15 \times 10^7$ C. $1{,}5 \times 10^5$ D. $1{,}5 \times 10^{-5}$

1.5. Temperature is 7 $^0$C and then it rises by 15 $^0$C, what will the temperature be? (1)

A. −22 $^0$C B. 22 $^0$C C. 8 $^0$C D. −8 $^0$C

1.6. How many terms in $2x^2 - (\frac{1}{2}x + 3y$ 3y) + $\frac{2s^3 - y}{3}$ : (1)

A. 3 B. 5 C. 6 D. 7

1.7. $If\ x = -2,$ find the value of $x^2 + 2x - 3$ (1)

A. – 7 B. 8 C. – 3 D. 11

## QUESTION 2 WHOLE NUMBERS AND INTEGERS [8 MARKS]

2.1 Use the numbers 120 and 150 to answer the questions that follow**;**

2.1.1. Write down **120** and **150** as the products of their prime factor using (2)

2.1.2. Use prime factors of 120 and 150 to find the **HCF** and **LCM**. (2)

2.2. $(12 \div 2) + (6 \times 3) - 3$ (2)

2.3. In a class of 80 learners, the ratio of girls to boys is $3:5$. How many girls are there in a class? (2)

## QUESTION 3 COMMON AND DECIMAL FRACTIONS [8 MARKS]

Calculate

3.1. $(\frac{1}{3})^2 + \frac{\sqrt[3]{27}}{9}$ (2)

3.2. $\frac{2}{3} \div 2\frac{1}{3}$ (2)

3.3. A price of a bicycle has a discount of 30%. Calculate the new price if the original was R18 000. (2)

3.4. Seven boys washed a car and received R94,45. How much did each receive? Round your answer to 2 decimal places. (2)

## QUESTION 4 EXPONENTS AND NUMBER PATTERNS [12 MARKS]

4.1. Simplify;

4.1.1. $(4xyz)^0$ (1)

4.1.2. $\frac{y^{10}}{y^3}$ (2)

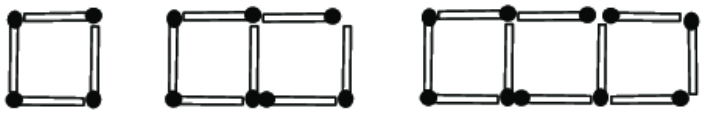
4.1.3. $(3cd^5)(2cd^2)$ (2)

4.2. Study the pattern below and then answer the questions that follow:
10; 17; 24; 31; …….

4.2.1 Determine the constant difference of the pattern. (1)

4.2.2 Provide a rule to describe the relationship between successive terms in the pattern. (2)

4.3. The pattern below is made up of match sticks. Study the pattern and answer the questions that follow.



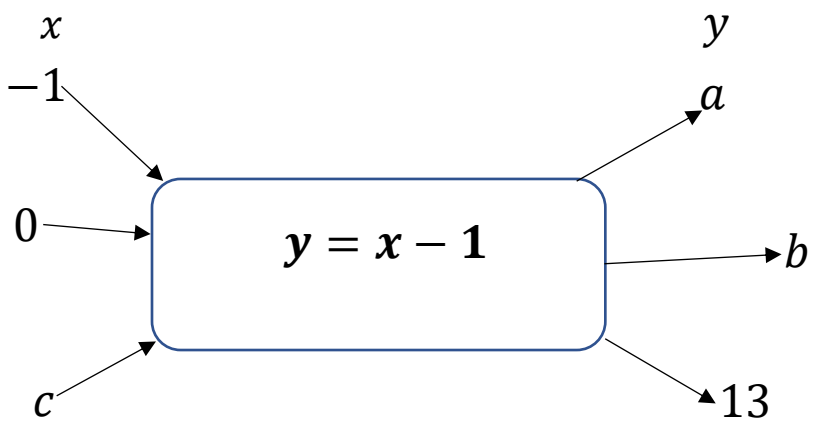
Picture 1 Picture 2 Picture 3

4.3.1. How many match sticks are needed to build picture 4 ? (2)

4.3.2. Write down the rule/formula to calculate the number of match sticks. (2)

## QUESTION 5 FUNCTIONS AND RELATIONSHIP [5 MARKS]

5.1. Study the flow diagram below and determine the values of $a, b$ and $c$. (3)




5.2. The table below shows the relationship between $x$ and $y$. Determine the rule. (2)

| $x$ | 1 | 2 | 3 | 4 | | 9 | | 117 |
|---|---|---|---|---|---|---|---|---|
| $y$ | 5 | 6 | 7 | 8 | | 13 | | 121 |

## QUESTION 6 ALGEBRAIC EXPRESSIONS & EQUATIONS [15 MARKS]

6.1. Consider the following expression $12\,x^2 - 5x + 3$

6.1.1. How many terms does the expression have? (1)

6.1.2. What is the coefficient of $x$? (1)

6.1.3. Write down the constant term (1)

6.1.4. Determine the value of the expression if $x = -2$ (2)

6.2. What is the sum of $5x^2 + 2x + 4$ and $3x^2 - 5x - 1$ (2)

6.3. Solve for $x$ in the following equation:

6.3.1. $5x + 4 = 3x + 10$ (2)

6.3.2. $5^x = 25$ (2)

6.3.3. $3x + 4 = 19$ (2)

6.4. If I double a number and add 15, I get 21. What is the number? (2)

**QUESTION 7 GRAPHS [5 MARKS]**

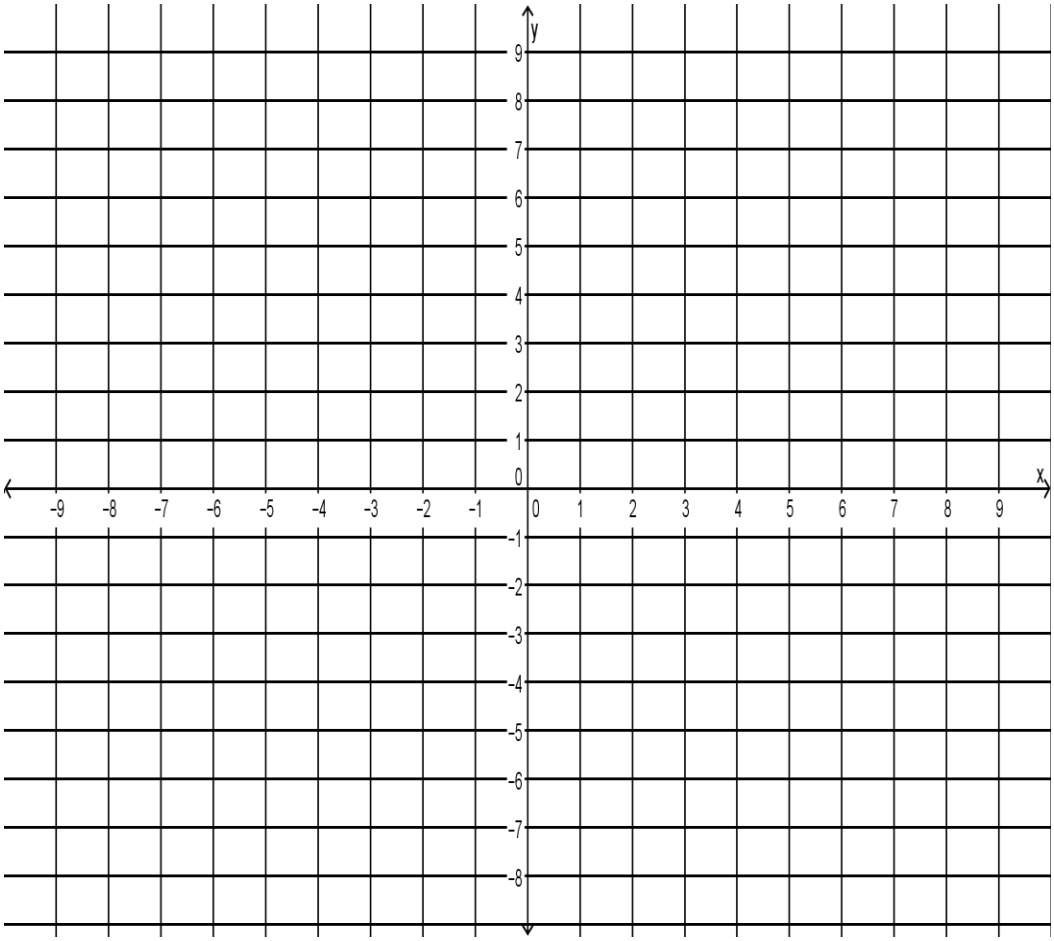
Draw a graph by plotting the following ordered pairs on the Cartesian plane. **(Use the grid paper provided on the last page. Remove the grid paper from your question paper and submit it together with the answer book)**

| $x$ | $-3$ | $-1$ | $0$ | $1$ | $2$ |
|---|---|---|---|---|---|
| $y$ | $8$ | $4$ | $2$ | $0$ | $-2$ |

**TOTAL MARKS: 60 MARKS**

MATHEMATICS GRADE 8 FINAL EXAM 2023

NAME: …….. CLASS:……


y
x
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
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