KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING (GET)

GRADE 9

MATHEMATICS TEST

MARCH 2025

NAME OF SCHOOL: _____

LEARNER NAME: _____

PERCENTAGE OBTAINED: _____%

DURATION: 1 HOUR

MARKS: 50

Instructions to candidates

1. This paper consists of **TWO** sections, namely Section A and B.
2. Section A consists of multiple-choice questions (MCQ). In order to respond to items in this section, you have to **circle the letter** corresponding to the correct answer.
3. Section B items are open ended and free response question types. **Use the spaces provided to respond to items in this section.**
4. NB. This question paper consists of **6 pages, including the cover page.**

SECTION A

QUESTION 1

Circle the correct letter only

1.1 Which of the statements below is equivalent to: $a + b$ and $a \times b$. (1)

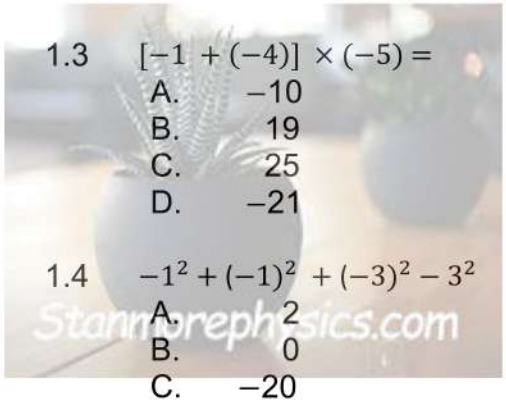
A. $b + a$ and $b \times a$
B. $b + a$ and $a + b$
C. $a \times b$ and $b \times a$
D. $a + b$ and ab

1.2 The LCM of 8, 12 and 20 is: (1)

A. 120
B. 80
C. 4
D. 60

1.3 $[-1 + (-4)] \times (-5) =$ (1)

A. -10
B. 19
C. 25
D. -21



1.4 $-1^2 + (-1)^2 + (-3)^2 - 3^2$ (1)

A. 2
B. 0
C. -20
D. 20

1.5 $-9 \times -5 = -5 \times -9 =$ (1)

A. 1,8
B. 45
C. $-1,8$
D. -45

1.6 $a^m \div a^n$ is (1)

A. a^{m+n}
B. a^{m-n}
C. a^{mn}
D. $a^{\frac{m}{n}}$

1.7 $1{,}23 \times 10^{-8}$ (1)

A. $0{,}00000123$
B. $0{,}0000123$
C. $123\,000\,000$
D. $123{,}000000$

1.8 The next term in the pattern, 7; 1; −5; −11; ... Will be (1)

A. 16
B. −22
C. −17
D. 17

1.9 The next term in the pattern 2; 1; $\frac{1}{2}$; $\frac{1}{4}$; …will be… (1)

A. $\frac{1}{6}$
B. $\frac{1}{8}$
C. $\frac{1}{10}$
D. $\frac{1}{12}$

1.10 Given the sequence 1; 0; –2; –5; –9; –14 ... the next term in the sequence is: (1)

A. −20
B. −27
C. −35
D. −44

QUESTION 2: Show all working where applicable. **[09]**

2.1 What kind of a number is √5? (2)

2.2 Use prime factorization to find the HCF of 780 and 7 700. (3)

2.3 A shop sells two types of soft drinks, Fizzy Cool and Berry Spark. Their prices are in the ratio, 3:4. You buy 5 Fizzy Cools and 7 Berry Sparks and pay a total of R52,89. What is the price of each drink? (4)

Question 3: **[10]**

3.1 Write the missing number to make the right-hand side equal to the left-hand side. (1)

$467\,940 + (1\,677 + 357\,865) + 2\,678\,879 = (467\,940 + 1\,667) + \cdots + 2\,678\,879$

3.2 Add the additive inverse of 5 to the product of -1 and -4. (3)

3.3 Calculate without using a calculator: $24 \div (5 - 8) + 3 \times (-2)$ (3)

3.4 Calculate without using a calculator: $3 + 6^2 \div 4 - (\sqrt[3]{27} + 1)$ (3)

QUESTION 4: **[11]**

Simplify, writing answers with positive exponents.

4.1 $x^{n+2} \times x^2 \times x^{n+1}$ (2)

4.2 $\left(\frac{2x^{-1}y}{3y^2}\right)^{-2}$ (3)

4.3 $4x^3 - 2x(3x^2) \times \frac{1}{2}x^{-3}$ (3)

4.4 On Monday, Erik tells 3 people a secret. The next day each of them tells 3 more people. If this pattern continues, how many people besides Erik will know the secret on Friday? (3)

QUESTION 5 **[10]**

5.1 For the pattern below write down the 7th and 9th terms (2)

$\frac{1}{2}$; 1; $\frac{3}{2}$; 2; $\frac{5}{2}$; 3; …; …

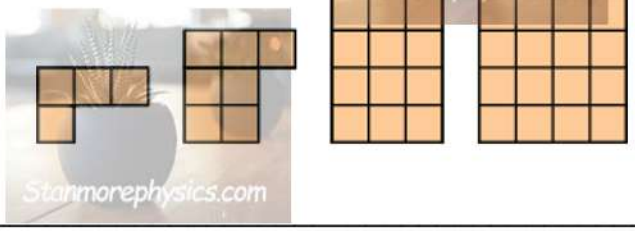
5.2 Consider the pattern: 14; 12; 10; 8; …

5.2.1 Write the general rule (T_n) for the pattern (2)

5.2.2 Which term has the value of −74? (1)

5.3 Given the pattern, 2; 5; 10; 17; 26 find the 8th term. Show all calculations. (3)

5.4 Find the general rule that describes the pattern below. (2)



GRAND TOTAL - 50

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SECTION A

QUESTION 1		
1.1	A ✓	(1)
1.2	A ✓	(1)
1.3	C ✓	(1)
1.4	C ✓	(1)
1.5	B ✓.	(1)
1.6	B ✓.	(1)
1.7	A ✓	(1)
1.8	C ✓	(1)
1.9	B ✓.	(1)
1.10	A ✓	(1)

QUESTION 2		[09]
2.1	Irrational ✓✓	(2)
2.2	2 | 780 2 | 390 3 | 195 5 | 65 13 | 13 1✓ HCF = $2^2 \times 5 = 20$ ✓	(3)
2.3	Sum of the ratio 3+4=7 ✓ Fizz Cools: $\frac{3}{7} \times$R52,89 = R22,67 ✓ R22,67 ÷5 = R4,53 ✓ Berry Sparks: R52,89 – R22,67 = R30,22 R30,22 ÷ 7 = R4,32 ✓	(4)

Question 3		[10]
3.1	357 865 ✓	(1)
3.2	$-5 + -1 \times (-4)$ ✓ $= -5 + 4$ ✓	(3)

	$= -1$ ✓	
3.3	$24 \div (5-8) + 3 \times (-2)$ $= 24 \div -3 + (-6)$ ✓ $= -6 + -6$ ✓ $= -12$ ✓	(3)
3.4	$3 + 6^2 \div 4 - (\sqrt[3]{27} + 1)$ $= 3 + 36 \div 4 - (3+1)$ ✓ $= 3 + 9 - 4$ ✓ $= 8$ ✓	(3)

QUESTION 4:		**[11]**
4.1	$x^{n+2} \times x^2 \times x^{n+1}$ $= x^{n+2+2+n+1}$ ✓ $= x^{2n+5}$ ✓	(2)
4.2	$\left(\frac{2x^{-1}y}{3y^2}\right)^{-2}$ $=(\frac{3y^2}{2yx^{-1}})^2$ ✓ $= \frac{9y^4}{4y^2x^{-2}}$ ✓ $= \frac{9}{4}x^2y^2$ ✓	(3)
4.3	$4x^3 - 2x(3x^2) \times \frac{1}{2}x^{-3}$ $= 4x^3 - \frac{2x..(3x^2.1}{2x^3}$ ✓ $= 4x^3 - \frac{6x^3}{2x^3}$ ✓ $= 4x^3 - 3$ ✓	(3)
4.4	Day 1: $3^1 = 3$ ✓ Day 2: $3^2 = 9$ Day 3: $3^3 = 27$ Day 4: $3^4 = 81$ Day 5: $3^5 = 243$ ✓	3+9+27+81+243 = 363 will know by Friday. ✓ (3)

QUESTION 5		**[10]**
5.1	7th term: $\frac{7}{2}$ ✓	(2)

	9th term: $\frac{9}{2}$ ✓	
5.2		
	5.2.1 $T_n = -2n + 16$ ✓✓ 1 mark for $-2n$ 1 mark for 16	(2)
	5.2.2 $-74 = -2n + 16$ $n = 45$ ✓	(1)
5.3	$T_n = n^2 + 1$ ✓ $T_8 = 8^2 + 1$ ✓ $T_8 = 65$ ✓	(3)
5.4	$T_n = n^2 + 3$ n^2 ✓ 3 ✓	(2)

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