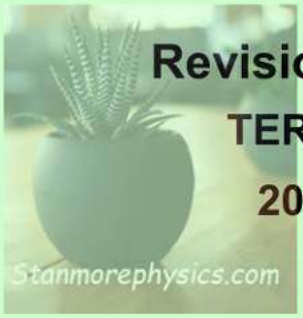
GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA



Revision Test
TERM 1
2025

GRADE 9

MATHEMATICS

EXAMINER:

MODERATOR:

MARKS: 50

TIME: 1 HOUR

This question paper consists of 4 pages

MATHEMATICS

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **SECTION** A and **SECTION B** based on the prescribed content framework in the CAPS document.

   SECTION A: MULTIPLE CHOICE

   QUESTION 1: 5 MULTIPLE CHOICE QUESTIONS BASED ON TWO.

   SECTION B: FOUR QUESTIONS BASED ON COVERED TOPICS

   QUESTION 2: WHOLE NUMBERS.

   QUESTION 3: INTEGERS.

   QUESTION 4: EXPONENTS.

   QUESTION 5: NUMERIC AND GEOMETRIC PATTERNS.

2. Answer ALL questions in both SECTIONS.
3. A non-programmable calculator may be used unless otherwise stated.
4. In **SECTION A choose the correct letter.**
5. In **SECTION B** show all necessary steps in your working unless otherwise stated.
6 When answering questions, candidates must apply their knowledge, skills, and insight.
7. Number the answers correctly according to the numbering system used in this question paper.
8. Write neatly and legibly.

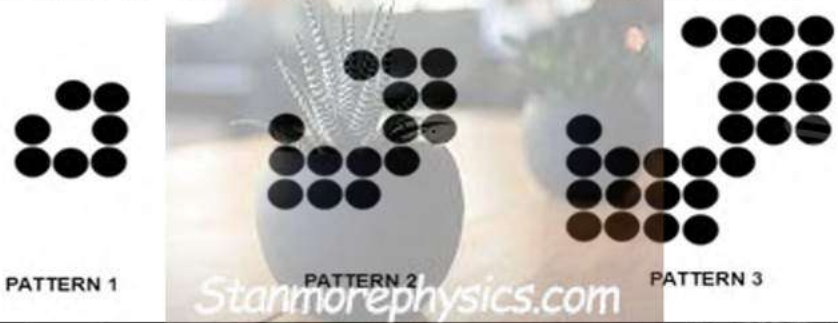
QUESTION 1

FOR EACH QUESTION, CHOOSE THE CORRECT LETTER OF THE CORRECT ANSWER.

1.1	Which number is undefined? A. $\frac{0}{8}$ B. $\sqrt{8}$ C. $\sqrt{-8}$ D. $\frac{8}{0}$		(1)
1.2	$(-a \times b)(e \times -g)$ Which of the following expressions is an example of the commutative property? A. $(-a + e) + (b - g)$ B. $(-a - g) \times (b \times e)$ C. $(-a \times e)(b \times -g)$ D. $(-a + b)(e - g)$		(1)
1.3	Simplify: $3n^3 \times 2n^2$ A. $6n^5$ B. $5n^5$ C. $6n^6$ D. $5n^6$		(1)
1.4	In scientific notation is $4 \times 10^{12} \times 7 \times 10^7 =$ A. 28×10^{20} B. $2{,}8 \times 10^{18}$ C. $2{,}8 \times 10^{20}$ D. $0{,}28 \times 10^{18}$		(1)
1.5	The next number in the sequence 3; 6; 11; 18; … is A. 25 B. 24 C. 26 D. 27		(1)
			[5]

QUESTION 2: WHOLE NUMBERS

2.1.	List the first four multiples of 12.		(2)
2.2.	Calculate what R10 000 will amount to if it is invested at 10 % per annum compound interest for 3 years.		(3)
2.3	If two cardboard boxes occupy 500 cubic centimetres of space, then how much space is required to keep 200 such boxes?		(5)
			[10]

QUESTION 3: INTEGERS			
3.1.	Simplify without using a calculator: $6-(3-5)+9—15\div 3$		(1)
3.2	Simplify without using a calculator: $\frac{3\times 7}{-3}$		(2)
3.3	Simplify without using a calculator: $-11\times 8+42\div(-7)$		(4)
3.4	Simplify without using a calculator: $\frac{\sqrt[3]{125}-3^2+0+1}{-4+\sqrt{121}-\sqrt[3]{64}}$		(5)
			[12]
QUESTION 4: EXPONENTS			
4.1.	Simplify: $(-2x^2y)^3$		(3)
4.2.	Simplify the following expression without using the calculator: $(-2)^3\times\left(\frac{3^2}{(-3)^2}\right)+((-4)^2\div((-2)^3)-(-5^2\times(-3)^2)$		(4)
4.3.	Simplify: $\frac{\sqrt{4x^6y^{-2}}\times(x^2)^{-2}}{(2x)^0\times y^{-3}}$		(4)
			[11]
QUESTION 5: NUMERIC AND GEOMETRIC PATTERNS			
5.1.	Write down the next two terms of the following sequence: 2; 4; 8; 16; …; …		(2)
5.2.	Investigate the following patterns below and draw pattern 4.  		(3)
5.3.	What are the next two terms in the sequence below? Explain how you got them. 0; 1; 2; 3; 5;…		(3)
5.4	$\frac{1}{2};\frac{3}{2};\frac{5}{2};\frac{7}{2};\ldots$ Describe the rule and write the general term in the form($T_n=\cdots$ of the given sequence above.		(4)

	[12]

Total	**50 Marks**

GAUTENG PROVINCE
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Marking Guideline

Revision Test

TERM 1

2025

GRADE 9

MATHEMATICS

EXAMINER:

MODERATOR:

MARKS: 50

TIME: 1 HOUR

This marking guideline consists of 7 pages.

MATHEMATICS

INSTRUCTIONS AND INFORMATION

1. Give full marks for answers only, unless stated otherwise.

2. Accept any alternate correct solutions that are not included in the marking guideline.

3. Underline errors committed by learners and apply Consistent Accuracy (CA).

KEYS	
M	Method
CA	Consistent Accuracy
A	Accuracy
S	Statement
SF	Substitution in Formula
R	Reason
S/R	Statement and Reason

QUESTION 1

FOR EACH QUESTION, CHOOSE THE CORRECT LETTER OF THE CORRECT ANSWER.

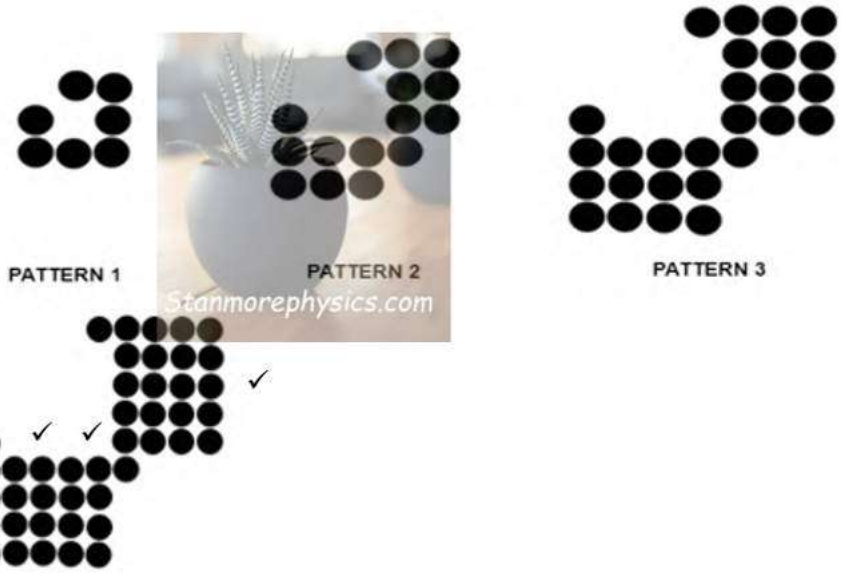
1.1	Which number is undefined? A. $\frac{0}{8}$ B. $\sqrt{8}$ C. $\sqrt{-8}$ D. $\frac{8}{0}$		(1)
1.2	$(-a \times b)(e \times -g)$ Which of the following expressions is an example of the commutative property? A. $(-a + e) + (b - g)$ B. $(-a - g) \times (b \times e)$ C. $(-a \times e)(b \times -g)$ D. $(-a + b)(e - g)$		(1)
1.3	Simplify: $3n^3 \times 2n^2$ A. $6n^5$ B. $5n^5$ C. $6n^6$ D. $5n^6$		(1)
1.4	In scientific notation is $4 \times 10^{12} \times 7 \times 10^7 =$ A. 28×10^{20} B. $2{,}8 \times 10^{18}$ C. $2{,}8 \times 10^{20}$ D. $0{,}28 \times 10^{18}$		(1)
1.5	The next number in the sequence 3; 6; 11; 18; … is A. 25 B. 24 C. 26 D. 27		(1)
			[5]

QUESTION 2: WHOLE NUMBERS

2.1.	List the first four multiples of 12. ✓ ✓ 12; 24; 36; 48; 60		(2)
2. 2.	Calculate what R10 000 will amount to if it is invested at 10 % per annum compound interest for 3 years.		(3)

	$A = P(1+i)^n$ ✓ $= R10\,000(1+0{,}1)^3$ ✓ $= R13\,310$ ✓ OR $A = P(1+\frac{r}{100})^n$ ✓ $= R10\,000(1+\frac{10}{100})^3$ ✓ $= R13\,310$ ✓ OR $First\ year: R10\,000 + R10\,000 \times 0{,}1 = R11\,000$ ✓ $Second\ year:\ R11000 + R11000 \times 0{,}1 = R12100$ ✓ $Third\ year:\ R12100 + R12100 \times 0{,}1 = R13310$ ✓		
2.3	If two cardboard boxes occupy 500 cubic centimetres of space, then how much space is required to keep 200 such boxes? Solution: Given, 2 cardboard boxes occupy 500 cubic centimetres. Space required for 200 boxes = ? As the number of boxes increases, the space required to keep them increases, ✓ so this is a case of direct proportion. ✓ Let x cubic centimetres be the required space. So, $\frac{2}{500} = \frac{200}{x}$ $2x = 200 \times 500$ ✓ $x = \frac{200 \times 500}{2}$ ✓ = 50,000 ✓		(5)
			[10]
QUESTION 3: INTEGERS			
3.1.	Simplify without using a calculator: $6-(3-5)+9-15\div 3$ $=6-(-2)+9-5$ $=6+2+9-5=12$ ✓		(1)
3.2	Simplify without using a calculator: $\frac{3\times 7}{-3}$ $=\frac{21}{-3}$ ✓		(2)

	$= -7$ ✓		
3.3	Simplify without using a calculator: $-11 \times 8 + 42 \div (-7)$ $= -88 + (-6)$ ✓✓ $= -88 - 6$ ✓✓ $= -94$ ✓		(4)
3.4	Simplify without using a calculator: $\frac{\sqrt[3]{125} - 3^2 + 0 + 1}{-4 + \sqrt{121} - \sqrt[3]{64}}$ $= \frac{5 - 9 + 1}{-4 + 11 - 4}$ ✓✓✓✓ $= \frac{-3}{3}$ $= -1$ ✓		(5)
			[12]
QUESTION 4: EXPONENTS			
4.1.	Simplify: $(-2x^2y)^3$		(3)
4.2.	Simplify the following expression without using the calculator: $(-2)^3 \times \left(\frac{3^2}{(-3)^2}\right) + ((-4)^2 \div ((-2)^3) - (-5^2 \times (-3)^2)$ $= -8 \times \left(\frac{9}{9}\right) + (16 \div (-8) - (-25 \times 9))$ ✓ $= -8 + ((-2) - (-225))$ ✓ $= -8 + (-2 + 225)$ $= -8 + 223$ ✓ $= 215$ ✓		(4)
4.3.	Simplify: $\frac{\sqrt{4x^6y^{-2}} \times (x^2)^{-2}}{(2x)^0 \times y^{-3}}$ $= 2x^{3-4}y^{-1+3}$ ✓✓ ✓ $= 2x^{-1}y^2$ ✓ $= \frac{2y^2}{x}$ ✓		(4)

			[11]
QUESTION 5: NUMERIC AND GEOMETRIC PATTERNS			
5.1.	Write down the next two terms of the following sequence: 2; 4; 8; 16; **32; 64** ✓ ✓		(2)
5.2.	Investigate the following patterns below and draw pattern 4.  ✓ ✓ ✓		(3)
5.3.	What are the next two terms in the sequence below? Explain how you got them? 0; 1; 2; 3; 5; **8; 13** ✓ ✓ Add the previous two terms to determine the next term. ✓ (Fibonacci)		(3)
5.4	$\frac{1}{2}; \frac{3}{2}; \frac{5}{2}; \frac{7}{2}; \ldots$ Describe the rule and write the general term in the form($T_n = \cdots$ of the given sequence above. Add 1 to the previous term to get the next term. ✓✓ $T_1 = 1(1) - \frac{1}{2} = \frac{1}{2};$ $T_2 = 1(2) - \frac{1}{2} = \frac{3}{2};$ $T_3 = 1(3) - \frac{1}{2} = \frac{5}{2}; \ldots.;$ $T_n = 1(n) - \frac{1}{2} = n - \frac{1}{2} = \frac{2n-1}{2}$ ✓✓		(4)
			[12]

Total	50 Marks