LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

CONTROLLED TEST

GRADE 8

MATHEMATICS TERM 1

DATE: MARCH 2026

SEKHUKHUNE EAST DISTRICT

TOTAL MARKS: 50 DURATION: 1 HOUR

Name of the Learner:_____

Grade/Class: _____

Question Number	Total Mark	Learner's Mark	Moderated Mark
1. MULTIPLE CHOICE	5		
2 WHOLE NUMBERS	8		
3. INTEGERS	11		
4. COMMON FRACTIONS	11		
5. DECIMAL FRACTIONS	4		
6. NUMERIC AND GEOMETRIC PATTERNS	11		
Total	**50**		
%	**100**		

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
0-29	30-39	40-49	50-59	60-69	70-79	80-100
Not Achieved	Elementary Achievement	Moderate Achievement	Adequate Achievement	Substantial Achievement	Meritorious Achievement	Outstanding Achievement

QUESTION 1

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

1.1	Which of the following is a whole number? A. -5 B. 0 C. $1{,}5$ D. $\sqrt{3}$ ANSWER:……..		(1)
1.2	The additive inverse of -12 is … A. -12 B. 0 C. 12 D. -1 ANSWER:……..		(1)
1.3	Simplify: $\left(\frac{3}{4}\right) \div \left(\frac{2}{5}\right)$ A. $\frac{15}{8}$ B. $\frac{6}{20}$ C. $\frac{8}{15}$ D. $\frac{3}{8}$ ANSWER:……..		(1)
1.4	Calculate: $0{,}36 \div 0{,}6 =$ A. $0{,}06$ B. 6 C. $0{,}6$ D. $0{,}0006$ ANSWER:……..		(1)
1.5	The next term in the pattern $2;\ 6;\ 18;$ ... is … A. 20 B. 24 C. 36 D. 54 ANSWER:……..		(1)
			[5]

QUESTION 2: WHOLE NUMBERS			
2.1.	Calculate 248×14 without using the calculator.		(2)
2.2	Determine the **LCM** and **HCF** of 360 and 124 using prime factorisation.		(3)
2.3	R840 is shared for Ben, Beauty, and Boston in the ratio $2:3:5$. Calculate each person's share.		(3)
			[8]
QUESTION 3: INTEGERS			
3.1.	Simplify without the use of a calculator: $(-12) \div 3 \times (-2)$.		(2)
3.2	Simplify without the use of a calculator: $-7 + 4 \times (-3) - (-5)$.		(2)

3.3	State with a counterexample whether subtraction of integers is commutative.		(3)
3.4	Simplify without the use of a calculator: $\sqrt{144} - 3^3 + (-2)^4$.		(5)
			[11]
QUESTION 4: COMMON FRACTIONS			
4.1.	Simplify without the use of a calculator: $3 \div \left(\frac{3}{5}\right)$.		(2)
4.2.	Simplify without the use of a calculator: $\sqrt{\frac{9}{16}} + \sqrt[3]{\frac{8}{27}}$.		(3)

4.3	An item costs R320 and is decreased by 12,5%. Determine the new price.		(2)
4.4	In a class of 36 learners, $\frac{5}{12}$ travel by bus and $\frac{1}{3}$ walk. The rest get lifts. How many get lifts?		(4)
			[11]
QUESTION 5: DECIMAL FRACTIONS (Calculators are prohibited)			
5.1.	Calculate: $3{,}45 \times 0{,}6$.		(2)
5.2.	Calculate: $5{,}04 \div 0{,}12$.		(2)

			[4]
QUESTION 6: NUMERIC AND GEOMETRIC PATTERNS			
6.1.	Complete the geometric pattern: $\mathbf{1,5;\ 3;\ 6;\ 12;\ \ldots;\ \ldots.}$		(2)
6.2.	Given: 4; 9; 14; 19;…Determine the general rule in the form $T_n = \cdots$, and T_{15} of the given sequence.		(4)
6.3.	Seating rows increasing by 4 seats. If first row has 7 seats, how many seats needed for ten rows?		(5)
			[11]

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GRADE 8 CONTROLLED TEST-MARKING GUIDELINE

DATE: MARCH 2026

SECTION A: MULTIPLE CHOICE (5 × 1 = 5)

Q	Answer	Marks	Clarification
1.1	B✓	1	Whole numbers include 0, 1, 2, …; negatives/decimals excluded.
1.2	C✓	1	Additive inverse is the number which sums to 0 with −12 → +12.
1.3	A✓	1	Interpret $3^4 \div 2^5 = \frac{81}{32}$; simplify by ÷(2) → $\frac{15}{8}$.
1.4	C✓	1	0,36 ÷ 0,6 = 3,6 ÷ 6 = 0,6 (shift decimals equally).

1.5	D✓	1	Geometric growth ×3: 2 → 6 → 18 → 54.

QUESTION 2: WHOLE NUMBERS (8)

2.1 Calculate 248 × 14 (No calculator).

Method: 248 × (10 + 4) ✓ = 2480 + 992

= **3472**✓. [2]

Marks: expansion/multiplication 1; final answer 1.

2.2 Determine the LCM and HCF of 360 and 124 using prime factorisation.

Prime factors: $360 = 2^3 \times 3^2 \times 5$; $124 = 2^2 \times 31$. ✓

$HCF = 2^2 = \mathbf{4}$;

$LCM = 2^3 \times 3^2 \times 5 \times 31 = \mathbf{13\,950}$✓. [3]

Marks: prime factors 1; HCF 1; LCM 1.

2.3 Ratio share of R840 in 2:3:5 (Ben:Beauty:Boston).

Total parts = 10;

one part = 840 ÷ 10 = 84. ✓

Ben: $2 \times 84 =$ R168;

Beauty: $3 \times 84 =$ R252;

Boston: $5 \times 84 =$ R420. ✓✓ [3]

Marks: parts & unit value 1; substitution 1; all three correct 1.

QUESTION 3: INTEGERS (11)

3.1 $(-12) \div 3 \times (-2)$

$= -4 \times$ ✓ (-2)

$= 8.$ ✓ [2]

Marks: division AND multiplication/signs 1, answer 1

3.2 $-7 + 4(-3) - (-5)$

$= -7 - 12 + 5$ ✓

$= -14.$ ✓ [2]

Marks: order of operations 1; answer 1.

3.3 Is subtraction commutative?

No✓. 5 − 2 = 3, but 2 − 5 = −3; 3 ≠ −3✓ → not commutative✓. [3]

Marks: statement 1; counterexample 1; conclusion 1.

3.4 $\sqrt{144} - 3^3 + (-2)^4$

$= 12$✓ $- 27$✓ $+$ ✓ 16✓

$= 1.$ ✓ [5]

Marks: 12 1; 3^3 1; $(-2)^4$1; addition 1; final 1.

QUESTION 4: COMMON FRACTIONS (11)

4.1 $3 \div \left(\frac{3}{5}\right)$

$= 3 \times \left(\frac{5}{3}\right)$ ✓

= 5✓. [2]

Marks: reciprocal 1; answer 1.

4.2 $\sqrt{\frac{9}{16}} + \sqrt[3]{\frac{8}{27}}$

$= \frac{3}{4} + \frac{2}{3}$✓

$= \frac{9}{12} + \frac{8}{12}$✓

$= \frac{17}{12}$

$= 1\frac{5}{12}$✓[3]

Marks: simplification 1; equivalent fractions 1; final 1.

4.3 Decrease R320 by 12,5%:

$\frac{12,5}{100} = \frac{1}{8}$;

$discount = R320 \times \frac{1}{8}$

$= R40$✓;

$new\ price = R320 - R40$

$= \boldsymbol{R280}$. ✓ [2]

Marks: rate calculation 1; answer 1.

4.4 Of 36 learners:

$\boldsymbol{\frac{5}{12}travel\ by\ bus; \frac{1}{3}walk;\ rest\ get\ lifts.}$

$Bus: 36 \times \frac{5}{12} = 15$✓;

$Walk: 36 \times \frac{1}{3} = 12$✓;

$Lifts: 36 - $✓$(15 + 12) = \mathbf{9}$✓. [4]

Marks: bus 1; walk 1; subtraction 1; final 1.

QUESTION 5: DECIMAL FRACTIONS (4) – Calculators prohibited

5.1 3,45 × 0,6 = 345 × 6 ÷ 1000✓ = 2070 ÷ 1000 = **2,07**. ✓ [2]

5.2 5,04 ÷ 0,12 = 504 ÷ 12✓ = **42**✓. [2]

QUESTION 6: NUMERIC & GEOMETRIC PATTERNS (11)

6.1 Complete: 1,5; 3; 6; 12; …; …

×2 pattern

⇒ **24**✓; **48**. ✓ [2]

6.2 Rule and T_{15} for 4; 9; 14; 19; …

Common difference = 5✓

$T_1 = 5 \times 1 - 1 = 4;$

$T_2 = 5 \times 2 - 1 = 9;$

$T_3 = 5 \times 3 - 1 = 14;$

$T_n = 5n - 1$✓;

$T_{15} = 5 \times 15 - 1$✓ $= 74$✓ [4]

Marks: d 1; formula 1; substitution 1; final 1.

6.3 Rows increase by 4 seats; first row 7; seats needed for 10 rows.

Common difference=4✓

$Sequence$: 7; 11; 15✓; 19; 23; 27; 31✓; 35; 39; 43 ✓

$S_{10} = 7 + 11 + 15 + 19 + 23 + 27 + 31 + 35 + 39 + 43 = \mathbf{250}$✓ [5]

Marks: d 1; sequence First three correct 1 Second 4 correct 1Last three 1; ; final 1.

OR

$T_1 = 4 \times 1 + 3 = 7;$

$T_2 = 4 \times 2 + 3 = 11;$

$T_3 = 4 \times 3 + 3 = 15$

$\therefore T_n = 4n + 3;$

$T_{10} = 4 \times 10 + 3 = 43$ ✓

And $S_2 = 7 + 11 \ldots\ldots\ldots\ldots (1)$

$start\ with\ last\ term$

$S_2 = 11 + 7 \ldots\ldots\ldots (2)$

$(1) + (2)$

$2S_2 = 2(18)$

$\div\ by\ 2$

$\therefore\ \boldsymbol{S_2 = 18}$ ✓

$S_3 = 7 + 11 + 15 \ldots\ldots\ldots (1)$

$start\ with\ last\ term$

$S_3 = 15 + 11 + 7 \ldots\ldots (2)$

$(1) + (2)$

$2S_3 = 3(22)\ldots,,$

$\div\ by\ 2$

$\boldsymbol{S_3 = 33}$✓

$\boldsymbol{S_n = \frac{n}{2}[first\ term + last\ term]}$ ✓

$S_{10} = \frac{10}{2}[7 + 49] = 5[50] = 250$✓

T_{10} value 1; S_2 value 1; S_3 value 1 ; S_n value 1 S formula 1; final 1.

OVERALL TOTAL = 50 MARKS

THE END