KWAZULU-NATAL PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

GRADE 09 – ASSIGNMENT

WHOLE NUMBERS,

INTERGERS & EXPONENTS

DATE : 25 FEBRUARY 2026

TIME : $1\frac{1}{2}$ HOUR

TOTAL : 50 marks

LEARNER NAME :_____

CLASS :_____

50

This paper consists of 06 pages including the cover page

INSTRUCTIONS

1. Answer ALL questions
2. Answers only will NOT necessarily be awarded full marks.
3. If necessary, answers should be rounded off to TWO decimal places, unless stated otherwise.
4. Number your answers correctly according to the numbering system used in this question paper.

QUESTION 01

1.1	**Replace the ☐ with a > or < in each of the following**	
1.1.1	12 ☐ -100	**(1)**
1.1.2	-2 ☐ 0	**(1)**
1.2	**Calculate the following without using a calculator**	
1.2.1	$5 + 3(-2)$	**(2)**
1.2.2	$6 + 3(-3 + 4)$	**(3)**
1.3	**Write the additive inverses ot the following number**	
	Number: -5, -4, 2, 6 Additive Inverse:	**(4)**
		[11]

QUESTION 02

2.1	**Choose the correct answer. Write only the letter of your choice on the space provided.** **E.g 2.1.5 D**	
2.1.1	**When you divide powers of the same exponent:** A: Keep the bases the same and add the exponents B: Keep the bases the same and divide the exponents	

	C: Keep the bases the same and multiply the exponents D: Keep the bases the same and subtract the exponents _____	**(2)**
2.1.2	**The exponent is a number which tells us how many times a number is:** A: Added by itself B: Divided by itself C: Multiplied by itself D: Subtracted by itself _____	**(2)**
2.2	**Simplify the following powers using laws of exponents**	
2.2.1	$2^4 \times 2^{-6}$	**(2)**
2.2.2	$(3^2x^5)^2$	**(2)**
2.2.3	$\frac{7^2 \times 7^2}{7^4}$	**(3)**
2.2.4	$\left(\frac{2x^2}{2^2x^4}\right)^2$	**(3)**
2.3	**Use the rules of the square roots to calculate the value of the following**	
2.3.1	$\sqrt{100 \times 81}$	**(2)**

2.3.2	$\sqrt{\frac{16}{9}}$	**(2)**
2.3.3	$\sqrt{36+13}$	**(2)**
2.3.4	$\sqrt{16-25}$	**(2)**
		[22]

QUESTION 03

3.1	**Define the following words**	
3.1.1	Whole Numbers	**(1)**
3.1.2	Integers	**(1)**
3.2	**Increase 135 in a ratio of 3:2**	**(2)**
3.3	**If the price of bread cost R17,60^{c} per loaf before VAT. Calculate the price of bread once VAT has been added. Round off you answer to the nearest cent**	**(2)**
3.4	**A recipe for a meal of Grade 09 learners is 5 bags of chicken feed 40 learners. Calculate how many bags of chicken would be required to feed 70 learners? Round off your answer to the nearest whole number**	**(3)**

3.5	**Thando and Kellys' ages are 9 and 17 respectively. Their parents give them R20 pocket money every day to use at school. If they divide money according to their ages, calculate how much Thando receive per day. Round off your answer to the nearest cent.**	**(3)**
3.6	**Mr Nkosi takes out a loan of R35 000 to buy a car. The bank charges him an interest rate of 14,5% p.a simple interest for 4 years. Round off your answers to the nearest rand.**	
3.6.1	Calculate the simple interest that Mr Nkosi would pay after 4 years	**(2)**
3.6.2	Calculate the total amount paid by Mr Nkosi toward his loan	**(1)**
3.6.3	Calculate the amount that Mr Nkosi will pay every month	**(2)**

TOTAL: 50 marks

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MARKING GUIDELINES

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QUESTION 01

1.1		
1.1.1	$12 > -100$	*Answer* ✓
1.1.2	$-2 < 0$	*Answer* ✓
1.2		
1.2.1	$5+3(-2)$ $= 5-6$ $= -1$	-6 ✓ *Answer CA* ✓
1.2.2	$6+3(-3+4)$ $= 6+3(1)$ $= 6+3$ $= 9$	$+3(1)$ ✓ $6+3$ ✓ Answer CA ✓
1.3		

Number	-5	-4	2	6
Additive	5 ✓	4 ✓	-2 ✓	-6 ✓

QUESTION 02

2.1		
2.1.1	D	*Answer* ✓ ✓
2.1.2	C	*Answer* ✓ ✓
2.2		
2.2.1	$2^4 \times 2^{-6}$ $= 2^{4+(-6)}$ $= 2^{-2}$ $= \frac{1}{2^2}$	*Adding exponents* ✓ *Answer CA* ✓

2.2.2	$(3^2x^5)^2$ $= 3^{2\times2}x^{5\times2}$ $= 3^4x^{10}$	*Multiplying Exponents* ✓ *Answer CA* ✓
2.2.3	$\frac{7^2 \times 7^2}{7^4}$ $= \frac{7^4}{7^4}$ $= 7^0$ $= 1$	*Adding Exponents* ✓ 7^0 ✓ *Answer CA* ✓
2.2.4	$\left(\frac{2x^2}{2^2x^4}\right)^2$ $= \frac{2^{1\times2}x^{2\times2}}{2^{2\times2}x^{4\times2}}$ $= 2^{2-4}x^{4-8}$ $= 2^{-2}x^{-4}$ $= \frac{1}{2^2x^4}$	*Multiplying Exponents* ✓ *Subt. exponents* ✓ *Answer CA* ✓
2.3		
2.3.1	$\sqrt{100 \times 81}$ $= \sqrt{100} \times \sqrt{81}$ $= 10 \times 9$ $= 90$	*Splitting square root* ✓ *Answer CA* ✓
2.3.2	$\sqrt{\frac{16}{9}}$ $= \frac{\sqrt{16}}{\sqrt{9}}$ $= \frac{4}{3}$	*Square root numerator and denominator seperately* ✓ *Answer CA* ✓
2.3.3	$\sqrt{36 + 13}$ $= \sqrt{49}$ $= 7$	$\sqrt{49}$ ✓ *Answer CA* ✓

2.3.4	$\sqrt{16-25}$ $=\sqrt{-9}$ $=Solution$	$\sqrt{-9}$ ✓ *Answer* ✓
QUESTION 03		
3.1		
3.1.1	Whole Numbers are numbers that are greater or equal to zero.	*Answer* ✓
3.1.2	Integers are whole numbers together with their additive inverses and zero	*Answer* ✓
3.2	$135 \times \frac{2}{3}$ $= 90$	*Multiplying by* $\frac{2}{3}$ ✓ *Answer CA* ✓
3.3	$VAT = 15\% \times R17{,}60 = 2{,}64$ $Price\ including\ VAT = R17{,}60 + R2{,}64 = R20{,}24$	$15\%\ of\ R17{,}60$ ✓ *Answer CA* ✓
3.4	$5 : 40$ $x : 70$ $350 = 40x$ $x = 8{,}75$ $x = 9$ *Nine bags of chicken would be required.*	*Expressing as a ratio* ✓ *Cross Multiplication* ✓ *Answer CA* ✓
3.5	$\frac{9}{26} \times R20$ $= R6{,}92$ *Thando receive R6,92 per day.*	*Multiplying by* $\frac{9}{26}$ ✓ ✓ *Answer CA* ✓
3.6		
3.6.1	$Simple\ Interest = \frac{35000 \times 14{,}5 \times 4}{100}$ $= R20\ 300{,}00$	$35000 \times 14.5 \times 4$ ✓ *Answer CA* ✓

3.6.2	$Total\ Amount = R35000 + R20\ 300$ $= R55\ 300{,}00$	*Answer* ✓
3.6.3	$Monthly\ Instalment = \frac{R55\ 300{,}00}{48}$ $= R1\ 152{,}08$	*Numerator* ✓ *Denominator* ✓

TOTAL: 50 marks