GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

JOHANNESBURG NORTH DISTRICT
February 2025

LEARNER'S NAME & SURNAME	:	
SUBJECT	:	**MATHEMATICS**
GRADE and CLASS	:	**8**
TASK	:	**Assignment**
MARKS	:	**50**
DURATION	:	**2 Hours in Class**

Question	1	2	3	4	Total Mark
Topic	whole Numbers	Integers	Integers	Whole Numbers	
Total Mark	**22**	**17**	**04**	**07**	**50**
Learner Mark					

Instructions to the learner

1. This paper consists of four questions on 7 pages including the cover page
2. Read all the instructions and questions carefully.
3. Answer all questions.
4. Use the provided spaces in this Question Paper to write all your answers.
5. Do your calculations in the spaces provided before choosing the correct answer in Section A.
6. ALL calculations must be shown in Sections A and B.
7. Non-programmable scientific calculators may be used unless you are told not to do so in some questions.
8. Diagrams are not necessarily drawn to scale; all lines are regarded as straight lines unless otherwise stated.

SECTION A [Multiple Choice]

Do your calculations in the spaces provided, thereafter circle the letter next to the correct answer.

Question 1

1.1 $(5 \times 3) \times 4$

Which expression represents the associative property?

A $(5 \times 4) + (3 \times 4)$
B $(5 \times 4) \times (3 \times 4)$
C $4 \times (5 \times 3)$
D $5 \times (3 \times 4)$

SHOW YOUR WORK

(1)

1.2 $\frac{7}{\blacksquare}$

What value must replace the symbol (■), to make the expression **undefined**?

A 7
B -7
C 0
D $\frac{0}{7}$

SHOW YOUR WORK

(1)

1.3 $0 \div (782 \times 479) + 333 =$

Calculate **without using a calculator**.

A 333
B *Undefined*
C 0

SHOW YOUR WORK

D $\frac{0}{333}$

(2)

1.4 Complete the definition of a **prime number**.
A prime number is a natural number with:

A exactly two multiples.
B exactly two factors: 1 and itself.
C at least two factors.
D 1 and itself as multiples.

SHOW YOUR WORK

(1)

1.5 In its simplest form, $42:66$ is equivalent to:

A $7:11$
B $11:7$
C $21:33$
D $33:21$

SHOW YOUR WORK

(1)

1.6 Given that:
$150 = 2 \times 3 \times 5 \times 5$
$1\,260 = 2 \times 2 \times 3 \times 3 \times 5 \times 7$
Determine the **highest common factor** (HCF) of 150 and $1\,260$.

A 6300
B 1260
C 150
D 30

SHOW YOUR WORK

(1)

1.7 Given: 12; 18 and 27.

What is the LCM of the numbers?

A 144
B 108
C 72
D 54

SHOW YOUR WORK

(4)

1.8 A car travelling at 90 km/h covers a certain distance in 1 hours 15 minutes.

The car then travels the same distance in 2 hours and 36 minutes.

What is the constant speed correct to two decimal places that the car travels?

A 112,50 km
B 43,27 km/h
C 72 km
D 292,50 km/h

SHOW YOUR WORK

(5)

1.9 Determine the simple interest earned on an amount of R1 400 at an annual interest rate of 6.5% over 36 months.

A $R1\,673$
B $R1\,491$
C $R273$

SHOW YOUR WORK

D $R91$

(2)

1.10 You and your two friends spent 10 hours; 15 hours and 35 hours respectively doing chores to help an elderly neighbour.
The neighbour's daughter decided to pay you R1680 together for the work done.
You all decide to share the money using the ratio of hours spent doing the chores.
How much will you get?

A $R28$
B $R280$
C $R420$
D $R980$

SHOW YOUR WORK

(2)

1.11 Mbali earned $150\ ZAR$ from waitressing.
She wants to buy a game that costs $12\ AUD$.
After her purchase, how much money will she have left in ZAR?
Use the exchange rates table below for your calculations. ($1\ AUD = 12{,}3031\ ZAR$)

A $R1{,}67$
B $R63{,}96$
C $R86{,}04$
D $R148{,}33$

SHOW YOUR WORK

(2)

[22]

QUESTION 2

2.1 What are the additive and multiplicative inverses of -5?

A 5 and $\frac{1}{5}$
B -5 and $-\frac{1}{5}$
C 5 and $-\frac{1}{5}$
D $-\frac{1}{5}$ and -5

SHOW YOUR WORK

(2)

2.2 $4 + (-2)$
Which expression represents the commutative property?

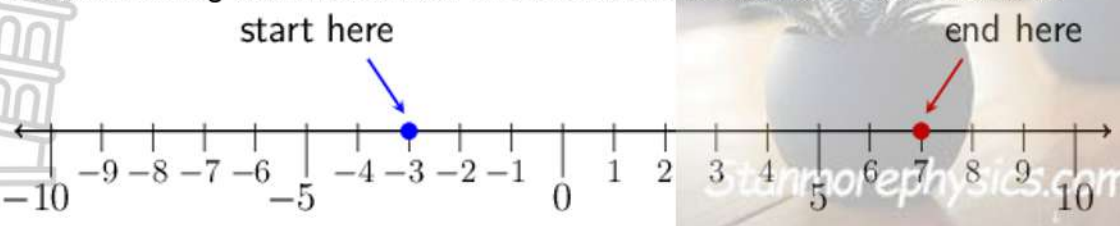
A $2 + 4$
B $(-2) + 4$
C -2×4

SHOW YOUR WORK

D $(-2)\times 4$

(1)

2.3 Kenneth is working with the number line. He needs to start at −3 and end at 7.



What must Kenneth do to get from the start point at −3 to the end point at 7?

Kenneth must:

A add 10 to −3
B add 7 to −3
C subtract 10 from −3
D subtract 7 from −3

SHOW YOUR WORK

(1)

2.4 $\dfrac{2(-3)-(5)-4(6\ \div\ (-3))}{5-6} = \ldots$

A 22
B 19
C 9
D 3

SHOW YOUR WORK

(3)

2.5 $\sqrt{49} - 2^3 + \sqrt[3]{216} \div 3 = \ldots$

A 1
B $2\frac{2}{3}$
C -1
D $2\frac{1}{3}$

SHOW YOUR WORK

(3)

2.6 $3(-2+6) - 2(5-4+1) = \ldots$

A 16
B 8
C 11
D 7

SHOW YOUR WORK

(3)

2.7 At noon (12H00 pm), the temperature in Johannesburg was $27\,℃$.

Thereafter it decreased by $3\,℃$ per hour.

What was the temperature at 16H00?

A $15\,℃$
B $12\,℃$
C $39\,℃$

SHOW YOUR WORK

D $18\,℃$

(2)

2.8 Calculate: $-13(-4+4)\div 13$

A -1
B 0
C -8
D $\frac{56}{13}$

SHOW YOUR WORK

(2)
[18]

SECTION B

Question 3

3.1 Simplify: $\sqrt{\frac{\sqrt[3]{-64}+5}{4^2+3^2}}$

(4)
[4]

Question 4

4.1 A local business owner makes leather wallets to sell in his shop.

4.1.1 The price of one of the leather wallets is R280 **excluding** VAT. What is the price of the wallet, **including** 15% VAT?

_____

(3)

4.1.2 The price **including** 15% VAT of a different wallet is R276. Determine the price excluding VAT.

_____
_____
_____
_____
_____

(4)
[7]

The end

Total: 50 Marks

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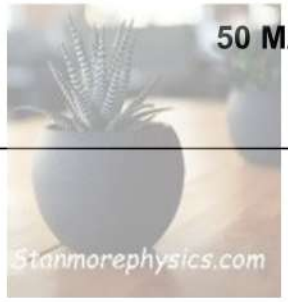
Johannesburg North District Paper

MATHEMATICS **February 2025**

GRADE 8 **2 HOURS in Class**

Assignment **50 MARKS**



MARKING GUIDELINE

This marking guideline consists of 5 pages.

Different methods can be used.

Final answer is marked when learners choose the letter of the correct answer in section A.

SECTION A [Multiple Choice]
Question 1

No.		Expected answer	Rational/Clarification	Mark Allocation
1.1	D✓	$5 \times (3 \times 4)$	$(5 \times 3) \times 4 = 5 \times (3 \times 4)$	1 mark for correct letter chosen
1.2	C✓	0	$\frac{7}{0} = UNDEFINED$	1 mark for correct letter chosen
1.3	A✓	333	$0 \div (782 \times 479) + 333$ $= 0 + 333$✓ $= 333$	1 mark for correct letter chosen 1 mark for method
1.4	B✓	exactly two factors: 1 and itself.		1 mark for correct letter chosen
1.5	A✓	7:11	$HCF\ of\ 42\ and\ 66 = 6$ $42 \div 6 = 7$ $66 \div 6 = 11$	1 mark for correct letter chosen
1.6	D✓	30	$2 \times 3 \times 5 = 30$	1 mark for correct letter chosen
1.7	B✓	108	$12 = 2 \times 2 \times 3$✓ $18 = 2 \times 3 \times 3$✓ $27 = 3 \times 3 \times 3$✓ $2 \times 2 \times 3 \times 3 \times 3 = 108$	1 mark for each correct prime factorisation of 12, 18, 27 1 mark for correct letter chosen
1.8	A✓	43,27 km/h	$s = \frac{d}{t}$ $90 km/h = \frac{d}{1,25}$✓✓ $d = 90 \times 1,25$ $d = 112,5$ km✓ $s = \frac{112,5}{2,6}$✓ $s = 43,27$ km/h	1 mark for converting minutes to hours. 1 mark for correct substitution into correct formula for distance 1 mark for distance 1 mark for correct substitution into correct formula for speed 1 mark for correct letter chosen
1.9	C✓	R273	1st year interest $= \frac{6.5}{100} \times 1400 = R91$✓ $interest\ for\ 3\ years = R91 \times 3$ $= R273$	1 mark for amount of interest per year 1 mark for correct letter chosen
1.10	B✓	R280	$10 + 15 + 35 = 60$ $= \frac{10}{60} \times R1680$✓ $= R280$	1 mark for $\frac{10}{60} \times R1680$ 1 mark for correct letter chosen
1.11	D✓	R2,36	$1\ AUD = 12,3031\ ZAR$ $12 \times 12,3031 = R147,64$✓ $= R150 - R147,64$ $= R2,36$	1 mark for $12 \times 12,3031 = R147,64$ 1 mark for correct letter chosen

Question 2

No.		Expected answer	Rational/Clarification	Mark Allocation
2.1	C✓	5 and $-\frac{1}{5}$	$-5+5=0$ $-5\times-\frac{1}{5}=1$✓	1 mark for both methods of additive and multiplicative inverse 1 mark for correct letter chosen (2)
2.2	B✓	$(-2)+4$	$4+(-2)=(-2)+4$	1 mark for correct letter chosen (1)
2.3	A✓	add 10 to −3		1 mark for correct letter chosen (1)
2.4	D✓	3	$\frac{2(-3)-(5)-4(6\div(-3))}{5-6}$ $=\frac{-6-5-4(-2)}{-1}$ $=\frac{-3}{-1}$ $=3$	1 mark for correct simplification in the numerator 1 mark for correct simplification in the denominator 1 mark for correct letter chosen (3)
2.5	A✓	1	$\sqrt{49}-2^3+\sqrt[3]{216}\div3$ $=7-8+6\div3$✓ $=7-8+2$✓ $=1$	1 mark for simplification 1 mark for correct letter chosen (3)
2.6	B✓	8	$3(4)-2(2)$✓ $=12-4$✓ $=8$	1 mark for simplification 1 mark for correct letter chosen (3)
2.7	A✓	15 ℃	$27+4(-3)$✓ $=15$ ℃ **or** $27-3-3-3-3$✓ $=15$ ℃	1 mark for correct expression 1 mark for correct letter chosen (2)
2.8	B✓	0	$-13(-4+4)\div13$ $=-13(0)\div13$✓ $=0\div13$ $=0$	1 mark for simplification inside brackets 1 mark for correct letter chosen (2)
				[17]

SECTION B

Question 3

3	SOLUTIONS	MARK ALLOCATION	Marks
3.1	$\sqrt{\frac{\sqrt[3]{-64}+5}{4^2+3^2}}$ $=\sqrt{\frac{-4+5}{16+9}}$ $=\sqrt{\frac{1}{25}}$ $=\frac{1}{5}$ Or $280 \times 115\,\%$ $= 280 \times 1{,}15$ $= \text{R}322$	$-4+5$✓ $16+9$✓ $\frac{1}{25}$✓ $\frac{1}{5}$✓	4
TOTAL			4

Question 4

4	SOLUTIONS	MARK ALLOCATION	Marks
4.1.1	$100\,\% + 15\,\% = 115\,\%$ $280 \times 115\,\%$ $= 280 \times \frac{115}{100}$ $= 280 \times 1{,}15$ $= R322$	$115\,\%$✓ $280 \times 115\,\%$ $R322$	3
4.1.2	$vat\ amount = \frac{15}{115} \times R276$ $= R36$ $Original\ amount = R276 - R36$ $= R240$ $\therefore$ *The price of the necklace excluding VAT is* R240	$\frac{15}{115}$ $\frac{15}{115} \times R276$ $R36$ $R240$	4