



DEPARTMENT OF EDUCATION

CHRIS HANI EAST DISTRICT

LEARNER'S NAME & SURNAME	:	
SUBJECT	:	MATHEMATICS
GRADE	:	9
TASK	:	Term 1 Test
MARKS	:	50

Question	1	2	3	4	5	4	7	Total
Topic	Multiple choice questions	Number systems, factors and multiples	Ratio, rate and proportion	Finance	Integers	Exponents	Patterns	
Total Mark	6	7	8	6	9	8	6	50
Learn er Mark								

Instructions:

1. This question paper consists of 7 questions on 6 pages.
2. Write neatly on the spaces provided
3. Show all calculations and working out.
4. Non-programmable scientific calculators may be used except in questions indicated otherwise.

QUESTION 1: Multiple choice questions

Four options are given as possible answers to the following questions. Circle the answer for the correct answer. If you made a mistake or change your decision, cross out your response and circle the new letter.

1.1. What kind of a number is $\sqrt{5}$? (1)

- A A natural number
- B A whole number
- C A rational number
- D An irrational number

1.2. The LCM of 96 and 108 is: (1)

- A 168
- B 2
- C 864
- D 96



1.3. A car travels 180 km in 2 hours on a straight road. How far can the car travel in 210 minutes at the same speed? (1)

- A 630 km
- B 25,7 km
- C 102,9 km
- D 315 km

1.4. The value of $3[-(-3 + 17)] - (-4) \times 2$ is equal to? (1)

- A 50
- B 46
- C -40
- D -34

1.5. Simplify: $4a^{12} \div 4a^3$ (1)

- A a^4
- B a^9
- C a^{15}
- D a^{36}

1.6. Consider the pattern



5; 8; 12; 17;

The next term in this pattern will be:

(1)

- A 19
- B 21
- C 23
- D 20

[6]

QUESTION 2: Number systems, factors and multiples

2.1. Classify the following numbers as rational or irrational:

2.1.1. $4\frac{1}{2}$



(1)

2.1.2. $\sqrt{17}$

(1)

2.1.3. 2,141414.....

(1)

2.2. Write the following numbers as products of their prime factors:

2.2.1. $135 =$

(1)

2.2.2. $225 =$

(1)

2.2.3. $315 =$

(1)

2.2.4. The HCF of 135 ; 225 and 315 =

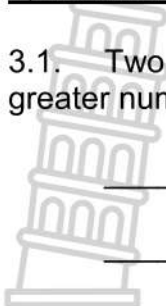
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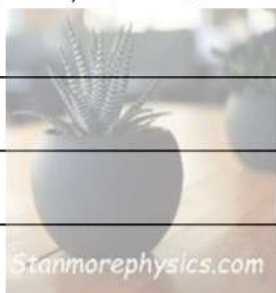
[7]

QUESTION 3: Ratio, rate and proportion

3.1. Two numbers are in the ratio 3 : 5. If the smaller number is 12, what is the greater number? (2)



3.2. If 3kg of potatoes cost R24, how much will 7kg cost? (2)

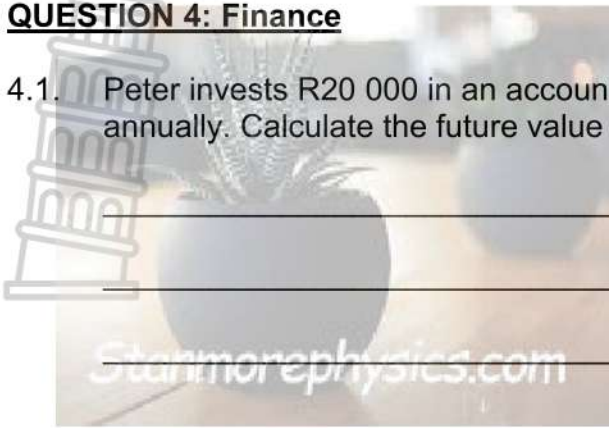


3.3. Zaheda travels for 6 hours partly by car at 100 km/h and partly by air at 300 km/h. If she travelled a total distance of 1200 km, how long did he travel by air? (4)

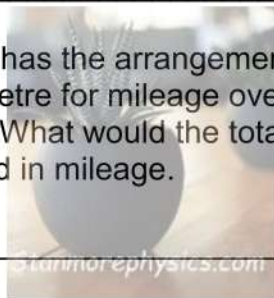
[8]

QUESTION 4: Finance

- 4.1. Peter invests R20 000 in an account paying 15% per annum compounded annually. Calculate the future value of his investment after 10 years. (3)



- 4.2. A car rental company has the arrangement of hiring their cars out at R175 a day plus R2 per kilometre for mileage over and above the included mileage of 500 km which is free. What would the total cost be if a car is rented for 5 days, and 850 km is covered in mileage. (3)



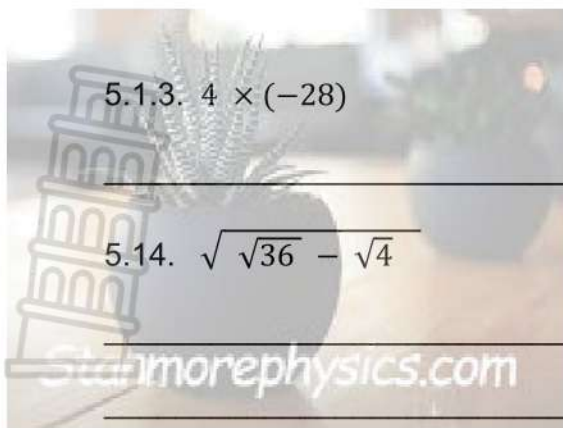
[6]

QUESTION 5: Integers

- 5.1. Calculate without using a calculator.

5.1.1. $-6 + 4 - 23$ (2)

5.1.2. $11 - [-3 + 2 - (-1)]$ (3)



5.1.3. $4 \times (-28)$

(1)

5.14. $\sqrt{\sqrt{36}} - \sqrt{4}$

(3)

[9]

QUESTION 6: Exponents

6.1. Simplify:

6.1.1. $x^4 \times x^7$

(1)

6.1.2. $(4x)^0$

(1)

6.1.3. $\frac{3a^{-2}b \times 24b^{-1}a^{-1}}{9a^{-4}b^{-3}}$

(4)

6.1.4. $\frac{2^{n+2}}{2^{n-1}}$

(2)

[8]

QUESTION 7: Patterns

7.1. Consider the pattern:

5; 7; 9; 11;



7.1.1. Write down the next two terms of the pattern.

(2)

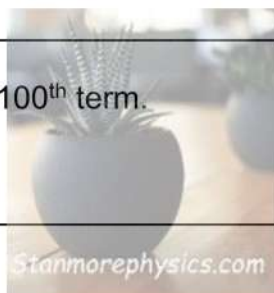
7.1.2. Write down the general term of the given sequence in the form

(2)

$T_n =$

7.1.3. Determine the 100th term.

(2)



[6]

THE END



Province of the
EASTERN CAPE
DEPARTMENT OF EDUCATION

SENIOR PHASE

GRADE 9

MATHEMATICS –MEMORANDIUM

MARCH 2024

MARKS: 50

DURATION: 1 Hours

This paper consists of 4 pages



QUESTION 1

- 1.1 ✓ answer (1)
 - 1.2 ✓ answer (1)
 - 1.3 ✓ answer (1)
 - 1.4 ✓ answer (1)
 - 1.5 ✓ answer (1)
 - 1.6 ✓ answer (1)
- [6]**

QUESTION 2

- 2.1
- 2.1.1 $4\frac{1}{2}$ Rational ✓ answer (1)
- 2.1.2 $\sqrt{17}$ Irrational ✓ answer (1)
- 2.1.3 2,141414..... Rational ✓ answer (1)

2.2

5	1	3	5		5	2	2	5		5	3	1	5
3	2	7			5	4	5			3	6	3	
3	9				3	9				3	2	1	
3	3				3	3				7	7		
	1					1					1		

- 2.2.1 $135 = 3 \times 3 \times 3 \times 5$ ✓ answer (1)
- 2.2.2 $225 = 3 \times 3 \times 5 \times 5$ ✓ answer (1)
- 2.2.3 $315 = 3 \times 3 \times 5 \times 7$ ✓ answer (1)
- 2.2.4 *HCF of 135; 225 and 315*
 $= 3 \times 3 \times 5$
 $= 45$ ✓ answer (1)




QUESTION 3

- 3.1 $3 : 5 = 12 : x$
 $x = 5 \times 4$
 $= 20$
 Bigger number is 20 ✓ 5×4
 ✓ 20 (2)
- 3.2 $3kg = R24$
 $7kg = x$
 $x = \frac{7 \times R24}{3}$
 $x = R56$ ✓ $x = \frac{7 \times R24}{3}$
 ✓ answer (2)

[7]

3.3



$$\begin{aligned}
 \text{Car} &= 6h \times 100\text{km} / h \\
 &= 600\text{km} \\
 \text{Air} &= 1200\text{km} - 600\text{km} \\
 &= 600\text{km} \\
 \text{Time} &= \frac{D}{s} \\
 &= \frac{600\text{km}}{300\text{km} / h} \\
 &= 2 \text{ hours}
 \end{aligned}$$

✓ 600km

✓ correct formula

✓ substitution

✓ answer

(4)
[8]

QUESTION 4

4.1

$$\begin{aligned}
 A &= P(1+i)^n \\
 &= 20\,000(1+0,15)^{10} \\
 &= R59\,398,94^c
 \end{aligned}$$

✓ formula

✓ substitution

✓ answer

(3)

4.2

$$\begin{aligned}
 \text{Total Cost} &= R175 \times 5 + 350\text{ km} \times R2 \\
 &= R875 + R700 \\
 &= R1\,575
 \end{aligned}$$

✓ total cost

✓ simplification

✓ answer

(3)

[6]

QUESTION 5

5.1

5.1.1

$$\begin{aligned}
 &-6 + 4 - 23 \\
 &-2 - 23 \\
 &= -25
 \end{aligned}$$

✓ -2-23 or -6-19

✓ answer

(2)

5.1.2

$$\begin{aligned}
 &11 - [-3 + 2 - (-1)] \\
 &11 - (-3 + 2 + 1) \\
 &11 - (0) \\
 &11
 \end{aligned}$$

✓ +1

✓ 0

✓ answer

(3)

5.1.3

$$\begin{aligned}
 &4 \times (-28) \\
 &-112
 \end{aligned}$$

✓ answer

(1)

5.1.4

$$\begin{aligned}
 &\sqrt{\sqrt{36} - \sqrt{4}} \\
 &\sqrt{6 - 2} \\
 &\sqrt{4} \\
 &2
 \end{aligned}$$

✓ 6

✓ 2

✓ answer

(3)

[9]



QUESTION 6

6.1

$$x^4 \times x^7 = x^{11}$$

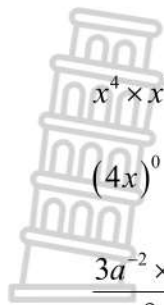
✓ answer (1)

6.2

$$(4x)^0$$

✓ answer (1)

6.3



$$\frac{3a^{-2} \times 24b^{-1}a^{-1}}{9a^{-4}b^{-3}}$$

$$= \frac{72a^{-3}b^0}{9a^{-4}b^{-3}}$$

$$= 8ab^3$$

✓ a^{-3}
 ✓ b^0
 ✓ $8a$
 ✓ b^3 (4)

6.4

$$\frac{2^{n+2}}{2^{n-2}}$$

$$= 2^{n+2-(n-1)}$$

$$= 2^3$$

$$= 8$$

✓ taking 1 base and add the exponents
 ✓ simplification (2)

[8]

QUESTION 7

7.1

7.1.1 13;15

✓ 13 (2)
 ✓ 15

7.1.2 $T_n = 2n + 3$

✓ $2n$ (2)
 ✓ 3

7.1.3 $T_n = 2(100) + 3$
 $= 200 + 3$
 $= 203$

CA from 7.1.2 (2)
 ✓ substituting by 100
 ✓ answer

[6]
 [50]

