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
Learner 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 $135 \, ; 225 \, and \, 315 =$ (1)

_____

_____

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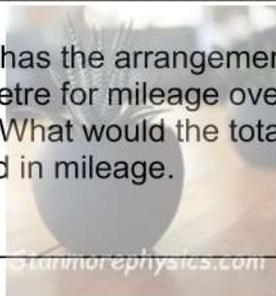
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4.2.   A car rental company has the arrangement of hiring their cars out at R175 a day plus R2 per kilometre for mileage over and above the included mileage of 500 km which is free. What would the total cost be if a car is rented for 5 days, and 850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

_____

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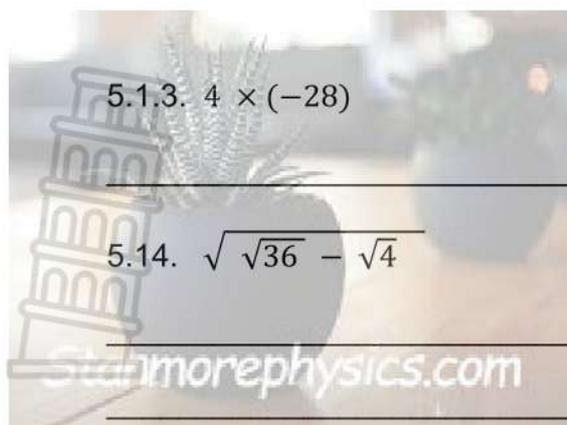
[9]

QUESTION 6: Exponents

6.1. Simplify:

6.1.1. $x^4 \times x^7$ (1)

_____

6.1.2. $(4x)^0$ (1)

_____

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

_____

_____

_____

_____

6.1.4. $\dfrac{2^{n+2}}{2^{n-1}}$ (2)

_____

_____

_____

[8]

<u>**QUESTION 7: Patterns**</u>

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)

$$Tn =$$

_____

    7.1.3. Determine the 100th term.   (2)

_____

_____

_____

[6]

THE END