

Question 2: Whole Numbers

[20]

2.1) Calculate the following:

$$a) \quad 259\,098 + 9\,578\,456$$

_____ (1)

$$b) \quad 109\,324 - 82\,369 =$$

_____ (1)

$$= 2\,892 \times 895$$

_____ (2)

2.2) **Exponents** - Simplify the following:

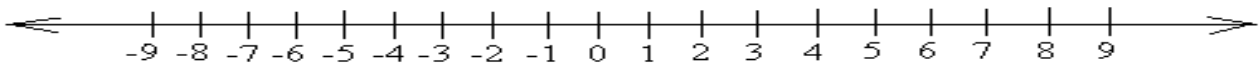
$$a) \quad \sqrt{121} \times 3 + 5^2 =$$

_____ (2)

$$b) \quad \sqrt[3]{216} + (9 - 2)^2 =$$

_____ (2)

2.3) **Integers** - Calculate:



a) $-3 + 6 =$ _____ (1)

b) $9 - (-8) =$ _____ (1)

c) $5 \times (-3) =$ _____ (1)

d) $-7 + (-4) \times (-2) =$ _____
_____ (2)

2.4) If Jack, Mpho and Shakir each take three tablets per day when they are sick. How many pills will they take altogether if they are sick for four days?

_____ (2)

2.5) 26 People want to build a greenhouse for their community that costs R91 234. They all share the costs equally. How much would each pay?

(3)

2.6) Mount Everest is 8 848 m high and the lowest point in Africa is Lake Assal, in Djibouti, which is 157 m below sea level. What is the total distance between the top of Mount Everest and the lowest point at Lake Assal?



(2)

Question 3: Fractions; Decimals and Percentages

[24]

3.1 Change $7\frac{5}{8}$ to an improper fraction. _____ (1)

3.2 Convert 0,68 to a common fraction in its simplest form. _____ (1)

3.3 Which one of the fractions $2\frac{5}{6}$; $3\frac{2}{3}$; $2\frac{3}{4}$ or $3\frac{7}{12}$ is closest to 3?
_____ (1)

3.4 Simplify $5\frac{42}{16}$ _____ (1)

3.5 What is $\frac{5}{8}$ of 64kg?
_____ (1)

3.6 Calculate:

a) $x = 356,9 + 27,283 - 5,999$

(2)

b) $x = 94,61 \times 32,4$

(2)

c) $x = 578,7 \div 9$

(1)

d) $x = 1\frac{7}{8} + 4\frac{3}{4}$

(2)

e) $x = 3\frac{3}{5} - 1\frac{4}{6} \quad 30\frac{48}{30}$

(2)

f) $x = 1\frac{7}{8} \times 2\frac{8}{12}$

(2)

g) $x = 45\% \text{ of R240}$

(2)

3.7) H&M is having a winter sale. All items are sold at a 25% discount. Calculate what you will pay for a pair of jeans that originally cost R460?

(2)

3.8) Peter paid R120 for a soccer ball that originally cost R150.

a) What percentage of the original price did he pay?

(2)

b) With what percentage did the price of the soccer ball decrease?

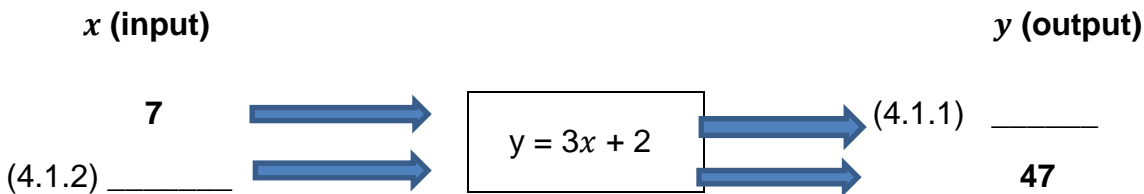
(2)

Question 4: Number Patterns/ Functions and Relationships

[10]

4.1) Complete the flow-diagram by filling in the missing values :

(2)



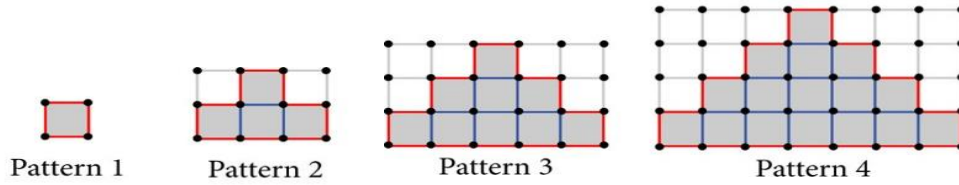
4.2) Extend the following number sequences to the next two terms and describe the pattern.

4.2.1) 8 ; 14 ; 20 ; 26 ; _____ ; _____

4.2.2) 1 ; 2 ; 4 ; 8 ; _____ ; _____

(2)

4.3) Study the following pattern and answer the questions that follow :



4.3.1) How many squares will the 5th pattern have? _____ (1)

4.3.2) Determine the general rule for this pattern. _____ (1)

4.3.3) How many squares will the 10th pattern have? Show how you got to your answer.
 _____ (2)

4.3.4) Which pattern will have 144 squares? _____ (2)

Question 5: Algebra

[13]

5.1) Write these algebraic expressions in their shortest form:

a) $2 \times b - 4 =$ _____

b) $(3 + m) \div n =$ _____

c) $a \times 3 \times 4 \times b =$ _____ (3 × 1 = 3)

5.2) Write the following as algebraic expressions:

a) The sum of p and double q . _____

b) Subtract y from 2 and multiply by 6. _____

c) Divide 9 by q and add 14. _____ (3 × 1 = 3)

5.3) Solve these algebraic expressions by substitution. Let $x = 4$ and $y = 3$.

a) $xy =$ _____ $=$ _____

b) $\frac{x}{3y} =$ _____ $=$ _____

c) $5y - x =$ _____ $=$ _____ (3 × 1 = 3)

5.4) Solve the following equations by inspection:

a) $p + 8 = 17$ $p =$ _____

b) $22 - p = 9$ $p =$ _____

c) $\frac{p}{12} = 3$ $p =$ _____

d) $5p + 13 = 38$ $p =$ _____ (4 × 1 = 4)

TOTAL: 75 Marks