

Grade 8

Mathematics P1

June 2017

Duration:

Moderator/s: JAB,

Marks: 60

1Hour 15Mins

MIM, MEM, EDA

Instructions:

1. Write your name and grade (e.g. 8E) as well as the name of your SUBJECT TEACHER at the top of your answer script.
2. This paper consists of 3 Pages.
3. This paper consists of **5 Questions**. Answer ALL the questions.
4. Calculators may **NOT** be used.
5. Number your questions correctly according to the numbering system used in this question paper.
6. It is in your own interest to write LEGIBLY and to present your work neatly.
7. **NO TIPPEX TO BE USED AS MARKS WILL BE DEDUCTED.**

QUESTION 1

1.1 Write down the following:

- 1.1.1 The multiples of 3 between 14 and 26 (1)
- 1.1.2 Two factors of 30 which add up to 13 (1)
- 1.1.3 The cube root of 27 (1)
- 1.1.4 The Additive inverse of -3 (1)
- 1.1.5 The answer to $-3 + (5) \times 4$ (1)

1.2 Answer the following:

1.2.1 Determine the LCM of 24 and 32 **using prime factors** (3)

1.2.2 If the number 21827b2 is divisible by 3, determine the value of b. Explain your answer. (3)

[11]

QUESTION 2

Simplify: Show all your workings

2.1 $(\sqrt[3]{27})^3$ (2)

2.2 $\sqrt{16 + 9}$ (2)

2.3 $3^4 + (17)^0 - \sqrt{49}$ (3)

2.4 $(-1)^3 + 10^2 + 4 \times -5$ (3)

[10]

QUESTION 3

3.1 Simplify and show all your workings:

3.1.1 $(3a - 2b) - 3b$ (2)

3.1.2 $\frac{2}{3}(9x - 12)$ (2)

3.1.3 $2a(a - 3) - (a - 5)$ (4)

3.1.4 $(-2p^5)^3$ (2)

3.1.5 $\frac{8a^3 + 6a^5 - 2a^2}{-2a^2}$ (3)

3.1.6 Subtract $3a - 2b + 1$ from $4a - 5b - 2$ (3)

3.2 What is 25% of R600 (2)

3.3 decrease 45 in the ratio 2:3 (3)

[21]

QUESTION 4

4.1 Given the algebraic expression below:

$$-10x^3 + 10x + 12 - 3x^2$$

Use the expression to answer the following questions:

4.1.1 How many terms are in the expression? (1)

4.1.2 What is the coefficient of x^2 . (1)

4.1.3 Write down the constant term. (1)

4.1.4 Write the expression in descending order of powers. (1)

4.2 If $x = -2$ and $y = 3$, calculate the value of $(3y - x)^2$ (3)

4.3 Eddie is x years old. Write an expression in terms of x to show how old he will be in 11 years. (3)

[10]

QUESTION 5

Solve for x :

5.1 $2x - 5 = 11$ (2)

5.2 $4(x - 2) - 3x = 2x - 5$ (3)

5.3 $\frac{x}{4} + 3 = 9$ (3)

[8]