

**Western Cape
Government**

Education

GRADE 8

**MATHEMATICS
PAPER 1**

JUNE 2015

MARKS: 75

TIME: 1 ½ HOURS

INSTRUCTIONS

Read the following instructions carefully before answering the questions.

1. This question paper consists of 7 questions.
2. Answer ALL the questions.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Clearly show ALL calculations.
5. Answers only will not necessarily be awarded full marks.
6. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
7. If necessary, round off answers to TWO decimal places, unless stated otherwise.
8. Write neatly and legibly.

QUESTION 1

1.1 Write down the following:

- 1.1.1 The first 4 multiples of 3 (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 Write 72 as a product of its prime factors. Write your answer in exponential form. (3)
- 1.2.2 Determine the LCM of 24 and 32 (3)
- 1.2.3 Write 345 000 000 in scientific notation (2)

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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 the following without using a calculator:

(a) $2\frac{1}{4} \times \frac{2}{3}$ (2) (b) $\frac{3}{4} + 4\frac{1}{6} \div 5$ (3)

3.2.1 Tarra bought a fridge for R2 500 and sold it for R3 999. Calculate the percentage profit she made. (2)

3.2.2 Ivy bought the fridge for R3 999 and paid a deposit of 10%. How much was the deposit? (2)

3.3 R5 000 is invested at 6% simple interest per year for 4 years. Calculate what the investment is worth at the end of the 4 years. (3)
[10]

QUESTION 4

4.1 Consider the following expression: $-10x^3 + 10x + 12 - 3x^2$

4.1.1 How many terms are there? (1)

4.1.2 What is the constant term? (2)

4.1.3 What is the coefficient of x^2 ? (1)

4.1.4 Calculate the value of the expression if $x = -2$ (2)

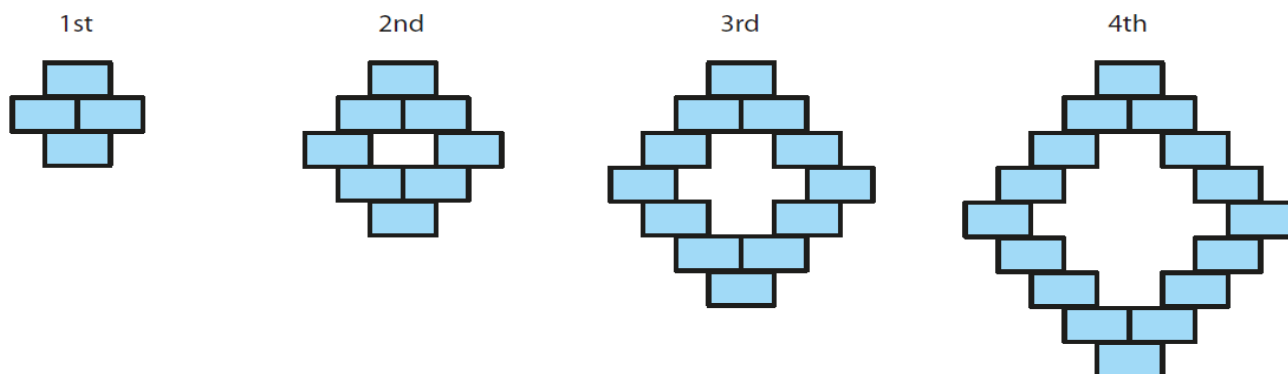
4.2 If $x = -2$ and $y = 3$, calculate the value of $(3y - x)^2$ (3)

4.3 Eddie is x years old. Write an expression in x to show how old he will be in 11 years. (1)

[10]

QUESTION 5

The following are the first four diagrams in a pattern:



Pattern No.	1	2	3.1	4		6		3.3		n
No. of Shaded Blocks	4	8	12	16		3.1		276		3.2

5.1 How many shaded blocks would there be in the 6th diagram? (2)

5.2 Determine the number of blocks in the n-th diagram $\therefore T_n = \dots$ (2)

5.3 Which diagram in the sequence will have 276 blocks? (2)

[6]

QUESTION 6

6.1 Simplify and show all your workings:

6.1.1 $(3a - 2b) - 3b$ (2)

6.1.2 $\frac{2}{3}(9x - 12)$ (2)

6.1.3 $2a(a - 3) - (a - 5)$ (4)

6.1.4 $(-2p^5)^3$ (2)

6.1.5 $\frac{8m^3 + 6m^5 - 2a^2}{-2a^2}$ (3)

6.1.6 $\frac{36p^6}{-6p^2}$ (2)

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

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QUESTION 7

Solve for x :

7.1 $2x - 5 = 11$ (2)

7.2 $4(x - 2) - 3x = 2x - 5$ (3)

7.3 $\frac{x}{4} + 3 = 9$ (3)

[8]