



Hoërskool Dr. Johan Jurgens
Mathematics
Grade 8
November Test
Paper 1

Examiner: Ms. C. Giezing
Moderator: Ms. M. Botha

Time: 1 Hour 30 minutes
Date: November 2025
Total: 60 marks

Name and Surname: _____

Grade: 8 _____

Instructions and information:

1. Please write your name, surname and grade in the space provided on the question paper.
2. Please write your name, surname, grade and date on the folio paper.
3. This question paper consists of **ELEVEN** questions. Answer **ALL** the questions.
4. Read all the questions carefully and think before you answer.
5. Show **ALL** formulae, substitutions and **ALL** calculations.
6. Non- programmable calculators may be used.
7. You may use appropriate mathematical instruments.
8. Round off to two decimal places, unless otherwise stated.
9. Number the answers correctly according to the numbering system used in this question paper.
10. Leave **ONE** line between two sub-questions, for example between QUESTION 2.1 and 2.2.
11. Write with a blue pen and cross out with a pencil if you made a mistake.
12. If you do your calculations in pencil it **WILL NOT BE MARKED**.
13. Please write neatly and legibly. (If I can't read it I can't mark it!).
14. Take a deep breath, you got this!
15. **GOOD LUCK!!!**

SECTION A:**QUESTION 1: MULTIPLE CHOICE**

Various options are given for the following questions choose the correct answer and write it down on your answer sheet, for example **1.6 C**

- 1.1 Write 57 243 176 in expanded form (1)
- A. $500\,000\,0000 + 70\,000 + 20\,000 + 4000 + 3000 + 100 + 700 + 60$
 - B. $50\,000\,000 + 7\,000\,000 + 200\,000 + 40\,000 + 3000 + 100 + 70 + 6$
 - C. $500\,0000 + 70\,000\,000 + 20\,000 + 4000 + 300 + 100 + 70 + 6$
 - D. $50\,000\,000 + 7\,000\,000 + 2000 + 40\,000 + 3000 + 100 + 70 + 6$
- 1.2 Simplify the following: $-6 - 8 - 3$ (1)
- A. 13
 - B. -17
 - C. -13
 - D. 17
- 1.3 Simplify the following: $\frac{15}{45}$ (1)
- A. $\frac{3}{4}$
 - B. $\frac{1}{4}$
 - C. $\frac{3}{9}$
 - D. $\frac{1}{3}$

1.4 Use the rule $\frac{1}{2}x + 2$; and calculate the missing y value. (1)

Input value: x	1	2	3	4
Output value: y	2,5	?	3,5	4

- A. 1
- B. -3
- C. 3
- D. 0

1.5 If $a = 1$; $b = 2$ and $c = -3$, find the value of: $2a + 3b - 4c$ (1)

- A. 20
- B. - 8
- C. 8
- D. - 20

[5]

SECTION B:

QUESTION 2: WHOLE NUMBERS

2.1 Determine the LCM and HCF of 13 and 39. (3)

2.2 Increase R180 by 12% (3)

[6]

QUESTION 3: INTEGERS

Simplify the following without the use of a calculator:

3.1 $3 + (-5) - (-4) + 18$ (2)

3.2 $\sqrt{36 \times 9} + \sqrt{16 + 9}$

(3)

[5]

QUESTION 4: COMMON FRACTIONS

4.1 Calculate: $4 \times \frac{1}{2} \div \frac{8}{10}$ (2)

4.2 Thabo uses $3\frac{1}{2}$ liters of petrol per week for his motorcycle. How long will he be driving with 49 liters? (3)

[5]**QUESTION 5: DECIMAL FRACTIONS**

Calculate the following without the use of a calculator.

5.1 $17,3 \times 100$ (1)

5.2 $1,44 \div 0,12$ (3)

[4]**QUESTION 6: EXPONENTS**

6.1 Express each of the following in the simplest exponential form:

6.1.1 $x^3 \times x^4$ (1)

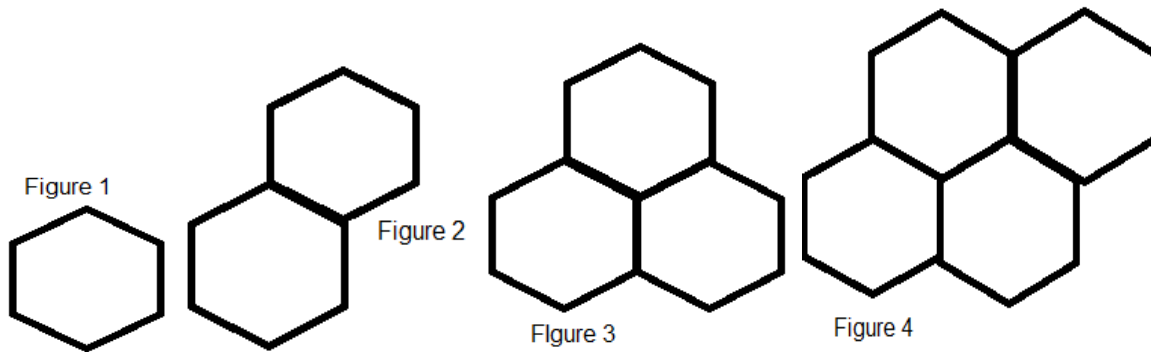
6.1.2 $5^0 \times 3^4$ (2)

6.2 Simplify and leave your answer in exponential form: $2^3 \times 2^7 \div \sqrt[3]{8}$ (3)

[6]

QUESTION 7: NUMERIC AND GEOMETRIC PATTERNS

Study the patterns below and answer the questions that follows:



7.1 Draw the next pattern in the sequence. (1)

7.2 Copy and complete the table

(3)

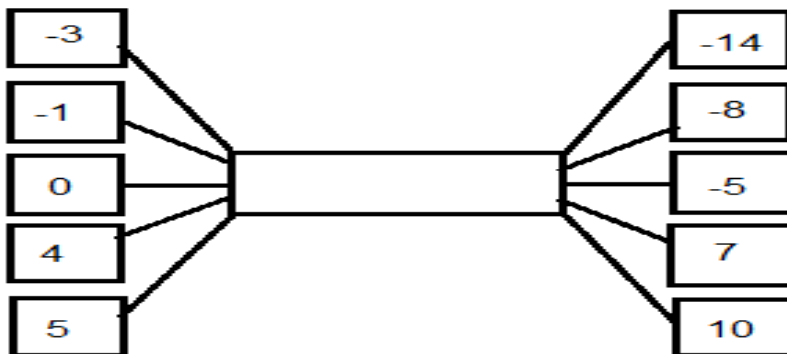
Pattern number (n)	1	2	3	4	5	6
Number of sides (s)	6	10	14			

7.3 Write down a rule to describe the relationship between s and n. (2)

[6]

QUESTION 8: FUNCTION AND RELATIONSHIPS

8.1 Determine the rule for the following flow diagram. (2)



8.2 Copy the table and calculate the missing values. Show all calculations. (2)

x	-4	-3	-2	-1	0
$y = 2x^2 + 1$	33		9	3	

[4]

QUESTION 9: ALGEBRAIC EXPRESSIONS

9.1 Look at the following expression and answer the questions that follow: (2)

$$6x^2 - 3x + 7$$

9.1.1 Write down the coefficient in the first term.

9.1.2 Write down the exponent in the second term.

9.2 Simplify the following expression by adding and subtracting the like terms. (2)

$$(3a + 4b) + (-2a + b)$$

9.3 Simplify the following:

9.3.1 $\sqrt[3]{27a^3b^9}$ (1)

9.3.2 $\sqrt{81x^4y^6}$ (1)

9.3.3 $\frac{-15gh^2+9gh}{3gh}$ (3)

[9]

QUESTION 10: ALGEBRAIC EQUATIONS

10.1 Simplify: $4x = 16$ (1)

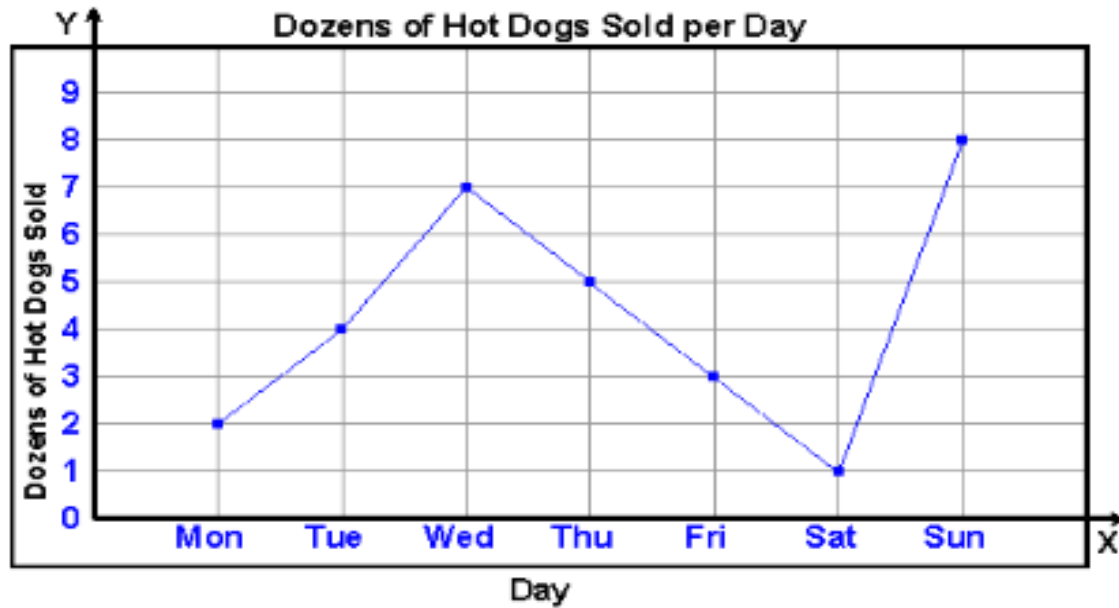
10.2 Solve for x : $5x + 3 = 2x - 3$ (2)

10.3 Solve for x : $2x^3 = 16$ (2)

[5]

QUESTION 11: GRAPHS

Study the graph and answer the questions that follow:



- 11.1 How many hotdogs were sold on Friday and Sunday combined? (1)
- 11.2 How many more hotdogs were sold on Sunday than on Saturday? (1)
- 11.3 How many hotdogs were sold on Monday, Wednesday and Thursday? (1)
- 11.4 The following week twice the number of hotdogs were sold than this week.
How many hotdogs were sold the following week? (2)

[5]**TOTAL: 60**