



Subject: Grade 8 Mathematics
Topic: Mathematics: Term 1 - Mini-Exam
Total: 89 Marks

Name: _____

Date: _____

Question 1: Multiple Choice

4 marks

Name the property displayed below:

$$12 + 5 + 7 = 5 + 7 + 12$$

- | | |
|----------|-----------------------|
| A | distributive property |
| B | commutative property |
| C | associative property |
| D | identity property |
-

Question 2: Multiple Choice

4 marks

Simplify:

$$\sqrt{121x^2y^6z^{16}}$$

- | | |
|----------|-------------|
| A | $11xy^3z^4$ |
| B | $11xy^2z^8$ |
| C | $11xy^4z^8$ |
| D | $11xy^3z^8$ |
-



Question 3: Please Fill In The Blanks

6 marks

Leano borrows R5 000 from his dad to go on a holiday with his friends. His dad charges 12% simple interest per month.

If Leano only pays the money back to his dad in 5 months, he pays R (1) in interest. The total amount that he will pay back is R (2) .

The rand/dollar exchange rate is R17, 93 to the dollar. R5 000 is equal to (3) dollars.

Possible Answers: 8 000 | 3 000 | 2 500 | 278,86 | 89 650

1	
3	

2	
----------	--

Question 4: True/False

2 marks

If a number is divided by the identity element of addition, the answer will be 0.

TRUE	FALSE
-------------	--------------

Question 5: True/False

2 marks

The coefficient of x in $2x^3 - 4x^2 + \frac{x}{2} - 1$ is 2.

TRUE	FALSE
-------------	--------------

Question 6: Multiple Choice

4 marks

Nicole sells candles in packets of 12 and candle stands in packets of 8. What is the least number of candles and candle stands that Nicole should buy so that there is one candle for each candle stand with no left over candles or candle stands?

- | | |
|----------|--|
| A | 3 packets of candles and 2 packets of candle stands |
| B | 8 packets of candles and 12 packets of candle stands |
| C | 2 packets of candles and 3 packets of candle stands |
| D | 12 packets of candles and 8 packets of candle stands |

Question 7: Multiple Choice

4 marks

Subtract $5a - 6b + 4$ from $-3a - 2b - 7$.

- | | |
|----------|-----------------|
| A | $2a - 8b - 3$ |
| B | $-8a + 4b - 11$ |
| C | $8a + 4b + 11$ |
| D | $-2a + 8b - 3$ |
-

Question 8: True/False

2 marks

450 changed in the ratio 4 : 5 will be 562, 5.

TRUE

FALSE

Question 9: Please Fill In The Blanks

4 marks

Consider the number pattern $-5 ; -8 ; -11 ; \dots$

The next 3 terms in the pattern will be (1) .

The value of the term in position 20 will be (2) .

Possible Answers: -23 | -14 ; -17 ; -20 | -13 ; -16 ; -19 | -62

1	
----------	--

2	
----------	--

This image refers to question: 10

x	-3	-1	4	6
y	a	b	c	d

Question 10: Please Fill In The Blanks

8 marks

Using the rule $y = 4x + 1$, determine the values of a , b , c and d .

$a = (1)$.

$b = (2)$.

$c = (3)$.

$d = (4)$.

Possible Answers: -13 | -11 | -2 | -3 | 17 | 11 | 25

1	
3	

2	
4	

Question 11: Text Input

3 marks

Without the use of a calculator, determine the value of:

$\sqrt{16 + 9} + (-2)^3 - (-3)$

--

Question 12: Please Fill In The Blanks

4 marks

Use the exchange rate R12,50/£ :

An item costing £ 20 will be R (1) .

An item costing R200 will be £ (2) .

Possible Answers: 2 500 | 0,17 | 250 | 16

1	
----------	--

2	
----------	--

Question 13: True/False

2 marks

$$2^8 \times 2^{10} = 4^{18}$$

TRUE**FALSE****Question 14: Text Input**

3 marks

Shaun and Nicole's salaries are in the ratio of 3 : 2. In total, they earn R66 000. How much more does Shaun earn than Nicole?

Give the answer as a number only.

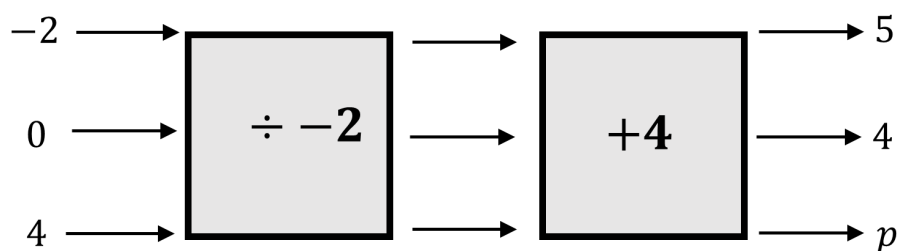
Question 15: Text Input

3 marks

Simplify:

$$-3a + 4b - 6b + 2a$$

This image refers to question: 16

Input (x)Output (y)**Question 16: True/False**

2 marks

For the flow diagram alongside, the value of p is 3.

TRUE**FALSE**

Question 17: Text Input

3 marks

Calculate the following, without the use of a calculator:

$$50 - 3 \times (4 + 5) + 5^2$$

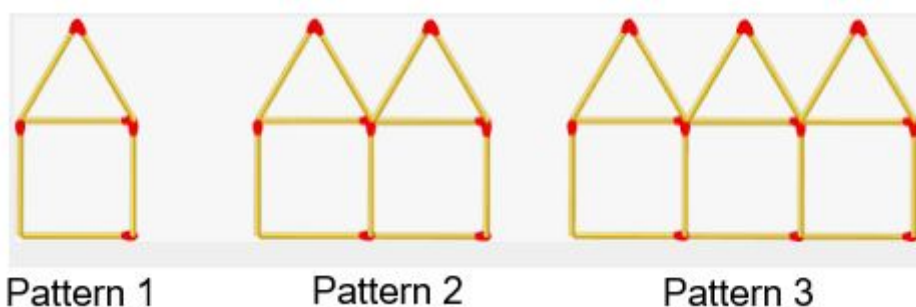
Question 18: Text Input

3 marks

Solve for x :

$$x + 5 = 25$$

This image refers to question: 19

**Question 19: Multiple Choice**

4 marks

Consider the pattern of houses made from matchsticks.

The rule to describe the number of matchsticks for any given number of houses is:

- | | |
|----------|---|
| A | Multiply the number of houses by 5 and add 1. |
| B | Add 5 matchsticks each time. |
| C | Multiply the number of houses by 2. |
| D | Multiply the number of houses by 6. |

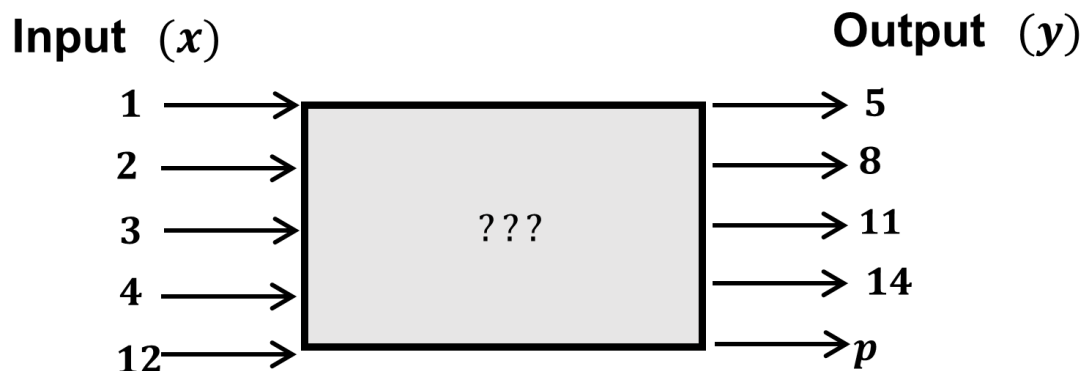
Question 20: Text Input

3 marks

There are 240 sweets. They are shared in the ratio of 4 : 3 : 1 amongst 3 friends, Shaun : Greg : Mpho.

How many sweets will Greg get?

This image refers to question: 21

**Question 21: Text Input**

3 marks

Consider the flow diagram alongside. Determine the value of p .

Question 22: True/False

2 marks

$\frac{15p^4q^2}{-5pq^2}$ can be simplified to $10p^3$.

Question 23: Multiple Choice

4 marks

 $x^3y \times x^2y^3$ is simplified to:

- | | |
|----------|----------|
| A | x^6y^3 |
| B | x^6y^4 |
| C | x^5y^3 |
| D | x^5y^4 |

Question 24: Please Fill In The Blanks

4 marks

Consider the 2 numbers expressed as a product of the prime factors:

$$72 = 2^3 \times 3^2$$

$$1\,080 = 2^3 \times 3^3 \times 5$$

The highest common factor, as a product of prime factors, is (1) .

The lowest common multiple, as a product of prime factors, is (2) .

Possible Answers: $2 \times 3 \times 5$ | $2^3 \times 3^2$ | $2^3 \times 3^3$ | $2^3 \times 3^3 \times 5$

1	
----------	--

2	
----------	--

Question 25: Please Fill In The Blanks

6 marks

Consider the expression: $-4a + 5(1) - 6b^2 + 1$

There are (2) terms.

The constant term is (3) .

If $a = 1$ and $b = 2$, the value of the expression is (...) .

Possible Answers: 1 | 4 | 5 | -12 | 15 | 36

1	
3	

2	
----------	--

Total: 89 Marks