



Subject: Grade 9 Mathematics
Topic: Mathematics: Term 2 - Exam 1
Total: 89 Marks

Name: _____

Date: _____

Question 1: True/False

2 marks

Consider the number pattern:

2; 4; 6; 8; ...

The rule describing this number pattern is $2n$, where n is a natural number.

TRUE

FALSE

Question 2: True/False

2 marks

$5x^2$ and $\frac{1}{5x^2}$ are additive inverses.

TRUE

FALSE

Question 3: Multiple Choice

4 marks

If $\frac{2(x+1)}{3} - \frac{(x-1)}{2} = 1$, then $x = \dots$

A

-1

B

5

C

$\frac{1}{4}$



Question 4: Multiple Choice

4 marks

$$3x(x - 3) + 2(3 - x)$$

The expression written in factorised form is ...

- | | |
|----------|-------------------|
| A | $(x - 3)(3x + 2)$ |
| B | $(3 - x)(3x + 2)$ |
| C | $(3 - x)(3x - 2)$ |
| D | $(x - 3)(3x - 2)$ |

Question 5: True/False

2 marks

$3b^3 - b(b - 3)(3b - 2)$ will be equal to $11b^2 - 6b$

Question 6: Text Input

3 marks

$$\frac{(b+x)^3}{(b+x)^2}$$

When the expression is simplified, the answer will be...

(Give only the answer without any brackets.)

Question 7: Text Input

4 marks

The first three terms generated by the formula $T_n = n^2 - n$ are ...

(Type in the values, separated by semicolons)

Question 8: Multiple Choice

4 marks

Simplify the following expression:

$$4x(x + 2y) + 5(x^2 - 2xy) - (3x^2 - 4xy) = \dots$$

- | | |
|----------|------------------|
| A | $6x^2 + 2x^2y^2$ |
| B | $6x^2 + 2xy$ |
| C | $6x^2 - 22xy$ |
| D | $12x^2 + 6xy$ |
-

Question 9: Text Input

3 marks

Simplify the expression:

$$\frac{y}{4} + \frac{5y}{3} - \frac{7y}{6} = \frac{\dots}{12}$$

(Give the numerator only)

Question 10: Text Input

3 marks

$$\frac{3p}{2} + \frac{7p}{5} = \frac{\dots}{10}$$

Simplifying this expression will give ... as numerator of the answer.

(Give the numerator only.)

Question 11: Please Fill In The Blanks

6 marks

Consider the expression:

$$4x^3 - 2x^2 + \frac{x}{2} - 1$$

The value of the constant term is (1)

The degree of the expression is (2)

The coefficient of x is (3)

Possible Answers: 1 | 2 | -1/2 | 4 | -1 | -2 | 1/2 | 3 | -3

1	
3	

2	
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Question 12: Text Input

3 marks

$$p^5 \cdot p^2 \cdot p$$

When this expression is simplified, the exponent of p will be equal to ...

(Give the value of the exponent only)

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Question 13: Text Input

3 marks

In a board game, 5 points are awarded when a correct answer is given whilst 3 points are deducted when a wrong answer is given.

Two groups of friends are playing this game.

The losing team finds it strange that they lost since they answered more questions than the winning team.

If they answered 20 questions and obtained 28 points, they answered ... questions correctly.

Let the number of questions they answered correctly be x .

(Give the number only)

Question 14: Text Input

3 marks

Given the equation:

$$7x - 8 = 4x - 14$$

The solution to the above equation is $x = \dots$

(Give the number only)

Question 15: Multiple Choice

4 marks

Factorise completely:

$$9(a + b) - x^2(a + b) = \dots$$

- | | |
|----------|-------------------------|
| A | $(a + b)(3 + x)(3 - x)$ |
| B | $(a + b)(9 - x^2)$ |
| C | $(a + b)(3 - x)(3 - x)$ |
| D | $(a + b)(9 + x^2)$ |

Question 16: True/False

2 marks

$$18m^2 - 24m^3$$

Factorising this expression gives an answer of $6m^2(3 - 4m)$.

TRUE**FALSE****Question 17: Please Fill In The Blanks**

6 marks

If $6x = 6$, then $x =$ (1)

If $6x = 0$, then $x =$ (2)

If $6x = x$, then $x =$ (3)

Possible Answers: 1 | 5 | - 5 | 6 | 1/6 | - 1/6 | - 6 | 0

1**2****3****Question 18: True/False**

2 marks

$$(p^5)^3 = p^8$$

TRUE**FALSE****Question 19: Multiple Choice**

4 marks

If $2(x - 1)(3x + 1) = (3x + 2)(2x - 1)$, then $x = \dots$

A $\frac{3}{2}$ **B** $\frac{2}{3}$ **C**

-2

D

0



Question 20: Multiple Choice

4 marks

$$x^5 \div x^{-3} \dots$$

- | | |
|----------|--------------------|
| A | x^8 |
| B | x^2 |
| C | $\frac{1}{x^2}$ |
| D | $x^{-\frac{5}{3}}$ |

Question 21: True/False

2 marks

The equation $5x + 4 = 3x - 10$ is true when $x = -7$.

TRUE**FALSE****Question 22: Please Fill In The Blanks**

6 marks

Complete the simplification of this expression by filling in the missing parts:

$$\begin{aligned} & \frac{3a}{5} - \frac{2a-1}{2} + \frac{1}{10} \\ = & \frac{2(3a) - 5(2a-1) + 1}{(\text{Ans. 1})} \\ = & \frac{-(\text{Ans. 2}) + (\text{Ans. 3})}{5} \end{aligned}$$

Ans. 1 = (1)

Ans. 2 = (2)

Ans. 3 = (3)

Possible Answers: 20 | 10 | 5 | -4a | 2a | 3 | 2 | 100

1	
3	

2	
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Question 23: Text Input

3 marks

If $x = 8$ and $14 = \frac{3}{4}x - y$ then the value of y , will be ...

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Question 24: Multiple Choice

4 marks

$$\frac{60x^6y^3 - 15x^4y^4}{-5x^3y^2} = \dots$$

- | | |
|----------|----------------------|
| A | $-12x^3y + 15x^4y^4$ |
| B | $-\frac{9}{xy}$ |
| C | $-12x^3y + 3xy^2$ |
| D | $55x^3y - 20xy^2$ |
-

Question 25: Please Fill In The Blanks

6 marks

The price of a chocolate bar is twice the price of a lollipop.

If you spend R9,00 and get 5 chocolate bars and 8 lollipops, each chocolate bar costs (1) and each lollipop costs (2)

Possible Answers: 50 cents | 70 cents | 60 cents | 100 cents | 90 cents | 40 cents

1		2	
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Total: 89 Marks