



Subject: Grade 9 Mathematics
Topic: Mathematics: Term 1 - Mini-Exam
Total: 98 Marks

Name: _____

Date: _____

Question 1: Text Input

3 marks

Solve for x :

$$4(x - 3) = -3\left(x - \frac{2}{3}\right)$$

Question 2: Text Input

3 marks

Simplify:

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

Question 3: Text Input

3 marks

Dumisani invests R12 300 into a bank account paying 15% p.a. compound interest for 3 years.

Calculate the amount Dumisani has at the end of the 3 years.



Question 4: Multiple Choice

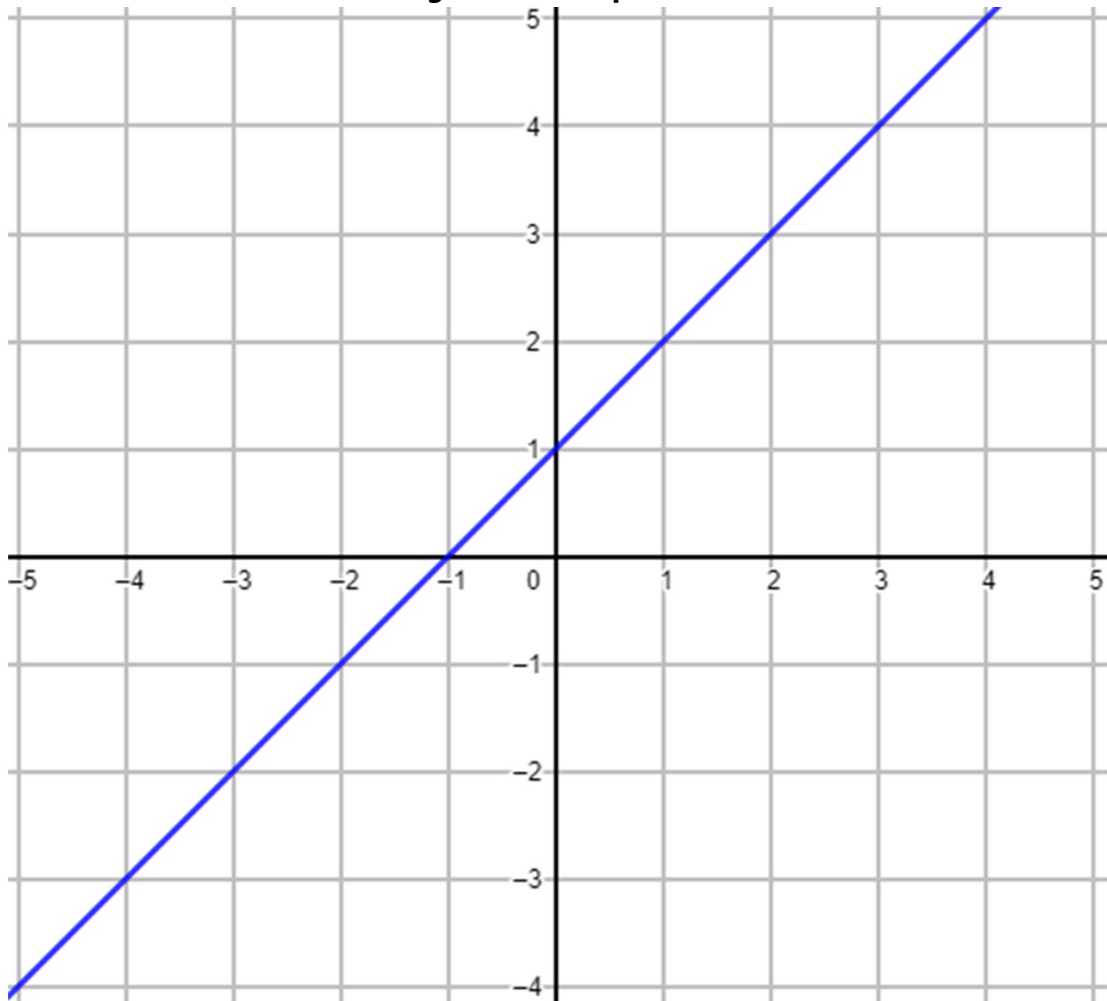
4 marks

Simplify the following:

$$(-2p^{-3}q^2)^{-3} \times 3pq^{-4}$$

A	$\frac{-24p^{10}}{q^{10}}$
B	$\frac{3p^{10}}{-8q^{10}}$
C	$\frac{3p^{10}}{8q^{10}}$
D	$\frac{24p^{10}}{q^{10}}$

This image refers to question: 5



Question 5: Please Fill In The Blanks

4 marks

For an input value of -1, the output value is (1) .

For an output value of -1, the input value is (2) .

Possible Answers: -2 | -1 | 0 | 1 | 2

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

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

Question 6: Multiple Choice

4 marks

A 20 000 litre water tank takes $2\frac{1}{2}$ hours to fill.

How many litres will be in the tank after 30 minutes?

- | | |
|----------|--------|
| A | 4 000 |
| B | 8 000 |
| C | 10 000 |
| D | 12 000 |
-

Question 7: True/False

2 marks

$\frac{-2x^{-3}y}{4x^{-4}}$ simplifies to $2xy$.

TRUE**FALSE**

Question 8: True/False

2 marks

Janice made a fruit punch drink for her birthday party. She used $1\frac{1}{3}$ cup of orange juice, $\frac{2}{3}$ cup of mango juice, $\frac{1}{4}$ cup of strawberry juice, and the rest was made up of lemonade. Janice made 1 litre of fruit punch.

The punch will contain 43, 75% lemonade.

TRUE**FALSE**

Question 9: Multiple Choice

4 marks

Simplify:

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

A	$\frac{1}{2}$
B	$\frac{x-4}{12x}$
C	$\frac{x+30}{12x}$
D	$\frac{x+6}{12x}$

Question 10: Please Fill In The Blanks

6 marks

Determine the values of A , B and C :

$$\frac{18p^3q^A}{Bp^4q^2} = \frac{-3p^C}{q^3}$$

The value of A is (1) .The value of B is (2) .The value of C is (3) .

Possible Answers: -1 | 1 | -2 | 2 | -3 | 3 | -6

1	
3	

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

Question 11: Please Fill In The Blanks

8 marks

Simplify the following without the use of a calculator:

a) $0,3a + 0,4a = (1)$.

b) $0,3a \times 0,4 = (2)$.

c) $(0,3a)^3 = (3)$.

d) $0,27a \div 0,03 = (4)$.

Possible Answers: $12a$ | $0,7a$ | $0,07a$ | $0,12a$ | $0,27a^3$ | $0,027a^3$ | $0,9a$ | $9a$

1	
3	

2	
4	

Question 12: True/False

2 marks

If $x = -2$, then the value of $2x^2 - 3x + 1$ is -1.**TRUE****FALSE****Question 13: Multiple Choice**

4 marks

Without the use of a calculator, express

 $432,2 \times 10^{-4} \times 10^3$ in scientific notation.

A	$432,2 \times 10^{-1}$
B	$4,322 \times 10^{-1}$
C	$4,322 \times 10$
D	$43,22$



Question 14: Multiple Choice

4 marks

A spelling competition is being held at a school. The prize money for getting all the words correct is R4 000. If there is more than 1 winner, the prize money is shared equally.

How much will each person get if there are 16 people that get all the words correct?

- | | |
|----------|------|
| A | R200 |
| B | R225 |
| C | R250 |
| D | R300 |

This image refers to question: 15

x	y
1	-6
2	-13
3	-20
4	-27

Question 15: True/False

2 marks

The rule for the table alongside is $y = 6x - 1$.

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

Question 16: Text Input

3 marks

Solve for x :

$$\frac{x}{3} - \frac{x}{2} = 4$$

Give the **number only**.**Question 17: Multiple Choice**

4 marks

Simplify, without the use of a calculator:

$$\left(x + \frac{1}{2}x\right)^3$$

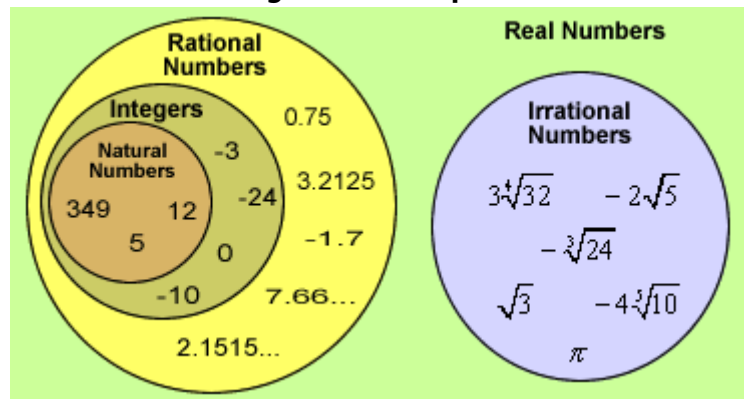
A	$\frac{27}{8}x$
B	$\frac{27}{8}x^3$
C	$\frac{1}{8}x^4$
D	$\frac{27}{8x^3}$

Question 18: True/False

2 marks

 $3(-2x)(-4x) - (-5x^2)(-6)$ can be simplified to $-33x^2$.

This image refers to question: 19



Question 19: Please Fill In The Blanks

8 marks

Classify the following numbers:

1. $\frac{-16}{4}$ (1) .

2. $\sqrt{25}$ (2) .

3. $-\frac{3}{2}$ (3) .

4. $\frac{\pi}{2}$ (4) .

Possible Answers: rational | irrational | rational, integer and whole | rational and integer | rational and whole | irrational and whole

1	
3	

2	
4	

Question 20: Multiple Choice

4 marks

Simplify:

$-2(2x - 3)^2$

- | | |
|----------|--------------------|
| A | $-8x^2 - 18$ |
| B | $-8x^2 + 18$ |
| C | $-8x^2 - 24x - 18$ |
| D | $-8x^2 + 24x - 18$ |

Question 21: Please Fill In The Blanks

8 marks

Daniel takes out a hire purchase loan for R25 000. A deposit of 10% is required. The loan is repaid over 4 years. The interest rate on the loan is 12% per annum.

The deposit is R (1) .

The balance of the loan is R (2) .

The interest charged on the loan is R (3) .

The monthly repayment is R (4) .

Possible Answers: 2 500 | 5 000 | 20 000 | 22 500 | 10 800 | 33 300 | 12 000 | 693,75 | 520,83

1	
3	

2	
4	

This image refers to question: 22

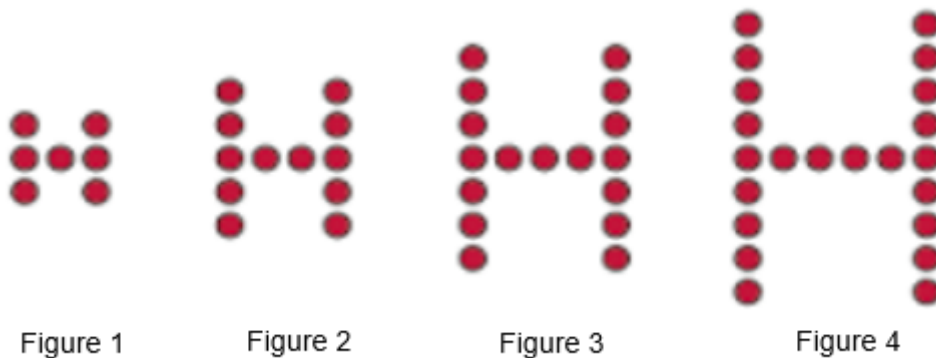


Figure 1

Figure 2

Figure 3

Figure 4

Question 22: Please Fill In The Blanks

6 marks

Dots are used to form the letter "H".

There will be (1) dots in the 5th letter "H".

There will be (2) dots in the 12th letter "H".

Which "H" will have 52 dots? (3) .

Possible Answers: 10 | 12 | 25 | 27 | 60 | 62

1	
3	

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

Question 23: True/False

2 marks

The sum of 3 consecutive numbers can be expressed as $3x + 3$.

☐ TRUE☐ FALSE**Question 24: Text Input**

3 marks

Determine the next 3 numbers in the following pattern:

3 ; 5 ; 8 ; 13 ; ...

Question 25: Text Input

3 marks

Simplify the following, without the use of a calculator:

$-2y - 8y - (-4y)$

Total: 98 Marks