EXAMINATIONS COUNCIL OF ESWATINI
Eswatini Primary Certificate Education

Mathematics (212)
Examination Report for 2023

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Paper 212/01

GENERAL COMMENTS

As observed in the previous years, word problems seemed to be a persistent challenge for the candidates as they did not read the questions with understanding. When they saw numbers, they just chose any operation instead of reading the question then deciding on the suitable operation to use. Candidates were still omitting working where more than one mark was awarded in a question. Candidates were able to finish the paper within the stipulated time.

SECTION A: MULTIPLE CHOICE (40 MARKS)

There was an improvement in the use of a grid for most centres. A few candidates still circled their answers or left blank spaces on the grid. Some candidates were not reading the questions with understanding and therefore failing to identify key words. Some candidates were not doing any calculation and as a result, the distracters were commonly chosen as answers.

Question 1

What is 17 × 23 equal to?

Most candidates were able to get the correct answer. A few, when multiplying by 2, could not maintain the place values. They ended up adding 51 and 34 to get 85.

Answer: D

Question 2

When working out the number sentence $3 + 8 \div 2 \times 4 - 2$*, the first step is*

Taken from BOMDAS, some candidates chose multiplication as the first step instead of working from left to right for multiplication and division.

Answer: B

Question 3

Which of the following represents the number 2 009 046?

Most candidates were able to represent the number in words. Some however, were confused by the zeroes and failed to interpret the last part of the number correctly.

Answer: A

Question 4

*Which of the following shows **all** the factors of 24?*

Some candidates were either omitting 1 or 24 as the factors.

Answer: C

Question 5

The sum of $\frac{1}{10} + 0.1$ *is*

Candidates were not able to change common fractions to decimal fractions or vice versa. The common incorrect answer was D.

Answer: A

Question 6

The number of sides in a heptagon is

Candidates were able to identify the correct answer. It was evident that candidates are quite familiar with pentagons and hexagons.

Answer: B

Question 7

The number 325.5647 to the nearest hundredth is

Rounding off to the nearest hundred instead of hundredth was common.

Answer: C

Question 8

Melusi looks at the clock at night as he gets ready for bed.
The time shown on the clock in 24-hour time is

Candidates simply looked at the clock and gave their answer without reading the information given. The most common incorrect answer was 0930 hours.

Answer: B

Question 9

On a drawing, 6 cm represents 420 km of the actual distance.

What is the scale of the drawing in its simplest form?

Simplifying a scale seemed be a challenge for some candidates. Some felt they had to divide or multiply either of the numbers by 10.

Answer: C

Question 10

How many weeks are in 4 years?

Some candidates used the concept that there are 4 weeks in a month hence leading to the incorrect answer of 192 weeks.

Answer: B

Question 11

A country recorded a total of 8 769 Corona Virus cases during the first three months of the year.

There were 1 234 cases in January and 1 223 cases in February.

How many cases were recorded in March?

Some candidates did not read the word problem. They simply added two or all the numbers they saw in the problem. Those who read the problem with understanding, had no challenge of adding 1 234 and 1 223 then subtracting the sum from 8 769.

Answer: D

Question 12

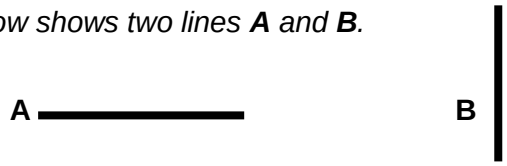
Which statement is correct about an equilateral triangle?

Most candidates were able to identify the correct description of an equilateral triangle. A few thought of an isosceles triangle and chose C as their answer.

Answer: B

Question 13

*The diagram below shows two lines **A** and **B**.*



*Choose a statement that is true about lines **A** and **B**.*

The confusion between horizontal and vertical was observed for some candidates.

Answer: D

Question 14

Which of the following numbers is a prime number that is also an odd number?

Some candidates still confuse prime numbers with odd numbers.

Answer: C

Question 15

The word expenditure can be defined as

Candidates had a challenge with the word expenditure. Option B was the most common answer because of the word “expensive”.

Answer: A

Question 16

Choose the number sentence that shows the correct steps for the difference of $\frac{6}{7} - \frac{2}{3}$

Some candidates simply subtracted the numerators and denominators to get A as their answer. Others remembered to find the LCM of the denominators but did not multiply the numerators to get equivalent fractions.

Answer: C

Question 17

Which of the following nets is the correct net for a cube?

The common incorrect answer was C since it is the most common net of a cube. They however forgot to count the number of faces.

Answer: A

Question 18

State the mode of the data below.

Most candidates were able to get 2 as the mode. Some wrote 3 and it is assumed when counting the number of 2's being three, and then gave 3 as their answer.

Answer: C

Question 19

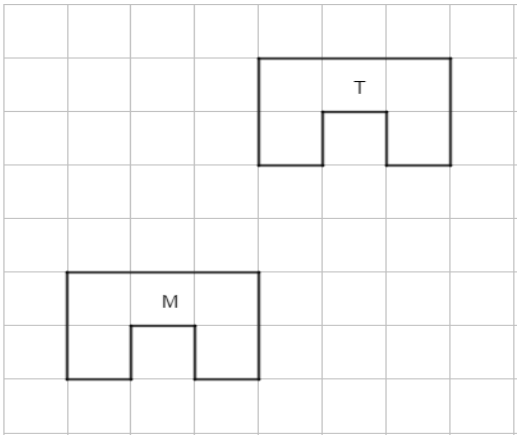
A baker adds 3 cups of sugar to 8 cups of flour.
How many cups of sugar will be added to 24 cups of flour?

Candidates who had a clear understanding of simple proportion did not have a challenge with the question. It was a challenging question for most candidates as dividing or multiplying by the numbers in the question could not give an answer option. Some left it blank.

Answer: B

Question 20

The diagram shows a sliding movement of figure M to figure T.



Which statement that describes the sliding of figure M to figure T?

Most candidates were able to get the correct answer. Some candidates started with sliding up instead of right.

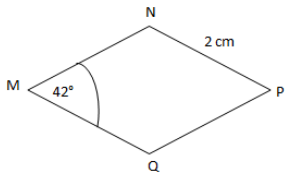
Answer: C

SECTION B: SHORT ANSWERS (60 MARKS)

It should be noted that marks allocated to most of the questions in this section are distributed between the working or method and the accuracy of the answer. Some candidates were giving correct answers without showing any working leaving one wondering how the answer was obtained hence forfeiting all the marks.

Question 21

The diagram below shows quadrilateral MNPQ.



(a) *State the name of quadrilateral MNPQ.*

The challenge of differentiating between a rhombus and a kite was common.

Answer: Rhombus

(b) *How many lines of symmetry does the quadrilateral have?*

The common incorrect answer was 4.

Answer: 2

(c) *State the sum of interior angles of the quadrilateral MNPQ.*

Some candidates gave 180° or 90° as their answer. Others were calculating 360° – 42° = 316°.

Answer: 360°

(d) *Angle NMQ = 42°.*

State the size of angle NPQ.

Unnecessary working was done by some candidates. They would subtract the 42° from 180°.

Answer: 42°

(e) *Calculate the perimeter of quadrilateral MNPQ.*

Instead of adding, some candidates were multiplying the length. Some candidates added to get 8 but ignored the given units and wrote their incorrect ones such as cm^2 and cm^3.

Answer: 8 cm

Question 22

Work out the following:

(a) *0. 084 + 0.23 + 0.4*

Most candidates were able to add the decimals. Some had a challenge with aligning the numbers correctly. The common incorrect answer was 0.111

Answer: 0.714

(b) $8 - 5\frac{3}{7}$

Most candidates were not able to subtract from a whole number.

The common working was $\frac{8}{1} - \frac{38}{7} = \frac{30}{7} = 4\frac{2}{7}$

Answer: $\mathbf{\frac{8}{1} - \frac{38}{7} = \frac{56}{7} - \frac{38}{7} = \frac{18}{7} = 2\frac{4}{7}}$

(c) *2.6 × 10 + 4*

Some candidates ignored the decimal in 2.6, multiplied correctly to get 1 040 then forgot to put back the decimal point. Others were multiplying both the 2.6 and 4 by 10. Another incorrect working was 260 × 4 = 1 040.

Answer: 104

(d) $6 \div \frac{1}{3}$

Most candidates could not multiply by the reciprocal of $\frac{1}{3}$. Others would find the reciprocal but continue to divide (6 ÷3 = 2) instead of multiplying.

Answer: 6 × 3 = 18

(e) *3 675 + 522*

Some candidates had a challenge with aligning the digits correctly. Common incorrect answer was 8 895.

Answer: 4 197

(f) $\frac{2}{3}$ *of an hour, giving your answer in minutes.*

Most candidates knew that there are 60 minutes in one hour. Some however, did not know what to do with this information. Incomplete calculations such as 2 × 60 = 120 and 60 ÷ 3 = 20 were common.

Answer: 40 minutes

(a) *A list of decimal numbers is given below*

0.921 0.911 0.910 0.912 0.902

Arrange the decimals starting with the ***smallest****.*

Most candidates were able to arrange the decimals correctly. Some ignored the instruction and started with the largest decimal. Others were omitting some numbers due to carelessness.

Answer: 0.902, 0.910, 0.911, 0.912, 0.921

(b) *State the digit that has a place value of* ***thousands*** *in the number below:*

103 799.345

Candidates were able to identify the correct digit. Others seemed to have ignored the decimal point and gave 9 as their answer. Some candidates gave the value of 3 as the answer, that is, 3 Thousands.

Answer: 3

(c) *Three girls share 60% of a cake equally.*

What fraction of the whole cake will each girl get?

Most candidates understood that they had to divide 60% by 3 to get 20%. Some left their answer as $\frac{20}{100}$ or $\frac{2}{10}$ without simplifying. There are those candidates who seemingly do not understand that % means out of 100. There would be $\frac{60\%}{100}$ in their working.

Answer: 60% ÷ 3 = 20%

$$\frac{\mathbf{20}}{\mathbf{100}} = \frac{\mathbf{1}}{\mathbf{5}}$$

(d) *Write the number 86 432 in expanded form.*

A majority of the candidates were able to write the number in expanded form. A few candidates were omitting one or two numbers. Some candidates were writing commas instead of addition signs.

Answer: 80 000 + 6 000 + 400 + 30 + 2

(e) *A village has a population of 2 000.*

Three fifths of the population has been fully vaccinated against COVID-19.

*Calculate the number of people who are **not** fully vaccinated*.

Some candidates did not read the question with carefully and simply found three-fifths of 2 000 hence giving 1 200 as their answer. A few of the candidates were writing three-fifths as $\frac{3}{50}$ or 350.

Answer: $\frac{\mathbf{3}}{\mathbf{5}} \times$ **2 000 = 1 200** **OR** $\frac{\mathbf{2}}{\mathbf{5}} \times$ **2 000 = 800**

2 000 – 1 200 = 800

Question 24

The table below shows prices of stationary items in Shop X and shop Y.

Item	Shop X (E)	Shop Y (E)
Instruments box	73.90	71.75
Exercise book	27.50	28.95
Ruler	4.35	4.40
Pen	8.65	10.15

(a) *How much is a ruler in Shop Y?*

Only a few candidates took the E4.35 from Shop X.

Answer: E4.40

(b)(i) *In which shop is an exercise book cheaper?*

Most candidates were able to get the correct answer. Some wrote the cheaper price, E27.50 instead of the shop.

Answer: Shop X

(ii) *By how much is the exercise book cheaper?*

Some candidates wrote the price of the cheaper exercise book instead of finding the difference. Some were adding the cost of the exercise books. There are those who would write E27.50 – E28. 95 then give the expected answer.

Answer: E28. 95 – E27.50 = E1. 45

(c) *Sipho buys one instruments box form Shop X and two pens from Shop Y.*
Calculate the amount of money that Sipho pays.

Some candidates were not taking their time in reading the problem. Most candidates simply added E73.90 and E10.15 to get E84.05.

Answer: E73.90 + E10.15 + E10.15 = E94.20

Question 25

(a) *Complete the following statements:*

(i) *9 × (5 + 3) =* _____ × _____

Some candidates wanted to work out and give the answer as 72. Some did not pay attention to the operation signs and ended writing 9 × 5 and 9 × 3 in the spaces provided.

Answer: 9 × 8

(ii) *63 months =* _____ *years +* _____ *months* [2]

Most candidates were able to divide 63 by 12 to get the expected 5 years. Some then had a challenge with the number of months.

Answer: 5 years 3 months

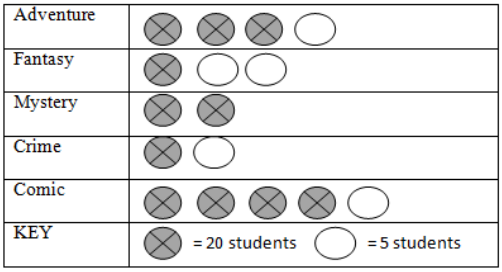
(b) *Use > or < to make the following statement true.*

Obtuse angle _____ *Reflex angle*

Memorising the inequality signs continues to be a challenge for some candidates.

Answer: Obtuse angle < Reflex angle

(c) *The pictogram below shows the number and types of library books borrowed by students in a school in one week.*



(i) *State the least borrowed library book.*

Most candidates were able to identify the least borrowed. Those who wrote Comic did not understand the key word “least”. Some wrote the number of Crime books which is 25.

Answer: Crime

(ii) *Which library book was borrowed by 30 students?*

A majority of the candidates were able to write the correct response.

Answer: Fantasy

(iii) *Find the difference between the number of students who borrowed comic and adventure books.*

Most candidates were able to interpret the key and showed the expected working. A few were having 80 – 60. Some candidate were writing 65 – 85 = 20.

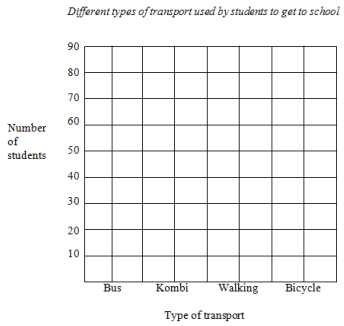
Answer: 85 – 65 = 20

Question 26

(a) *Students from Achievers Primary School use different types of transport to get to school as shown below:*

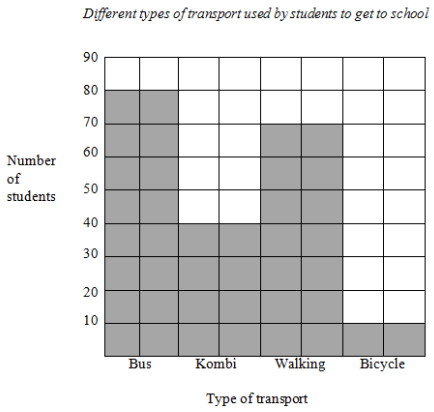
Bus = 80
Kombi = 40
Walking = 70
Bicycle = 10

Use the grid below to show the information in a bar chart.



Some candidates were plotting and joining the values to give a line graph. The issue of unequal spacing between bars was common. Some bars were not of equal width. Some candidates did not draw the bars but marked at the expected height using a line. Some candidates used 10 as the starting point of the bars.

Answer:



(b) *Nokwanda has an 83 m wire.*

She cuts the wire into 2 m pieces.

How many 2 pieces of wire did Nokwanda get?

Candidates were dividing 83 by 2 but did not fully understand what the answer expected.

Some were giving 41.5 and 41 rem 1 as their answers. Some would round off the 41.5 to 42.

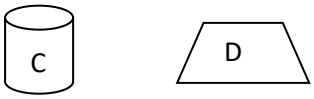
Answer: 83 ÷ 2

= 41.5

= 41

Question 27

(a) *State the names of the shapes C and D.*



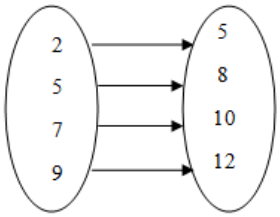
The most common incorrect answer for shape C was cylindrical and rhombus for shape D.

Wrong spellings were quite common.

Answer: C Cylinder

D Trapezium

(b) *A mapping has the following input and output sets.*



Write any two ordered pairs using the input and output sets.

Most candidates seemed not to have any idea what the question expected of them. Some were giving the rule of the mapping, that is, add 3 while others were showing how to use the rule to get the output member, e.g. 2 + 3 = 5. Others were giving answers in the form 2 → 5 while some were writing (2.5). Others would not include the brackets and give their answer as 2, 5.

Answer: Any two – (2, 5) , (5, 8) , (7, 10) , (9, 12)

(c) *A builder uses twice as much cement in the morning than in the afternoon.*
On a particular day he uses 660 kg.
How much cement did he use in the morning?

Most candidates did not understand what the question required. They simply divided 660 by 2 to get 330.

Answer: 660 ÷ 3 = 220

220 × 2 = 440 kg

RECOMMENDATIONS

- Teachers are encouraged to keep abreast with syllabus changes and not rely on the recommended textbook alone. Some questions showed that candidates had no idea of the required concepts.
- Unless one mark is awarded in a question, teachers must advise students to show their working
- Train learners to read the statement of the problem and underline key words

Paper 212/02

GENERAL COMMENTS

The candidates demonstrated satisfactory mastery of the skills and knowledge in the four strands of the syllabus. Various methods were used when attempting most questions in this component, utilizing the spaces allocated for working effectively. Compared to the previous session, a majority of the candidates attempted all the questions in the component.

Most candidates performed well in questions 6 and 13. Some candidates had difficulty in identifying even numbers from a given list in question **14(c)**. In addition, others struggled in question 15(b) and **16(c)**.

COMMENTS ON SPECIFIC QUESTIONS

Question 1

(a) (i) This part of the question required candidates to write 8 000 + 500 + 3 in numeral form. A majority of the candidates were able to write the number in numeral form. The most common incorrect responses were 8 053, 853 or writing the number in words.

Expected response: *8 503*

(ii) The question required candidates to write three and one-quarter in words. A fair number of candidates wrote the expected answer. The most common wrong responses were $3\frac{1}{2}$, $31\frac{1}{4}$ and 3.1.

Expected response: $3\frac{1}{4}$

(b) In this part of the question, the candidates were required to round off the given numbers as indicated. In part **(b)(i)** they were expected to round off 1360 to the nearest Hundred whilst in part **(b)(ii)** 75.249 to the nearest whole number.

(i) A majority of the candidates were able to round off the number as expected. Some candidates rounded off the number ignoring its value, as result they wrote 14 as their response while others rounded the number down and got 1 300 as their response.

Expected response: 1 400

(ii) While a few candidates were able to round off 75. 249 to the nearest whole number as required, a majority rounded the number 75. 249 to the nearest tenth ($\frac{1}{10}$) as 75.3. Some candidates rounded off the number to the nearest tens as 80. Some cases where candidates rounded the number but ignored the decimal point writing 75 000 as their response.

Expected response: 75

(c) In this question, the candidates were given the information: *The product of two numbers is 63*. *If one of the numbers is 9, work out the other number.* A few candidates were able to perform the task as expected. To get the correct answer the candidates were expected to work backwards using the inverse operation of multiplication which is division, that is, 63÷ 9. Many of the incorrect responses emanated from candidates multiplying 63 by 9(63×9). Other common incorrect responses resulted from either addition 63 + 9 or 63 −9.

Expected response: *7*

Question 2

In this question, the candidates were expected to state whether the given statements are *Incomplete, complete, True or false.*

(a) This question the candidates were given the statement: *9% as a common fraction is equal to* $\frac{9}{10}$. It was encouraging to observe that a majority of the candidates who scored a mark in this question changed 9% to a fraction first before choosing the correct response.

Expected response: *False*

(b) The given statement was: *In the number 705.49 the value of 7 is 700,* in this question. A few candidates chose the correct response. A majority of the candidates demonstrated lack of understanding of the concept of value of a digit in a number.

Expected response: *True*

(c) The given statement was: *Trial and check is an example of a problem solving strategy,* in this question. An average number of candidates were able to choose the correct response.

Expected response: *True*

(d) The given statement was: *In a kite, two pairs of sides are equal and parallel* in this part of the question. The performance of the candidates was mixed in this question.

Expected response: *False*

(e) The given statement was: *In a reflection, the size of the object and the image are different* in this question. To choose the correct option, the candidates were expected to understand that in a reflection the image and the object are the same size and shape.

Expected response: *False*

Question 3

(a) This item required the candidates to work out 78 125 – 9 631. To get the desired response the candidates were expected to present the numbers in the vertical format aligning the

digits according to their place values. Whilst a majority of the candidates were able to write the numbers below each other, some failed to align the digits correctly. They aligned the digits from the left as shown:

$$\begin{array}{r} 78\,125 \\ -\ 9\,631 \\ \hline \end{array}$$

Expected response: *68 494*

(b) The candidates were asked to work out $8 \times \frac{1}{4}$ in this item. Many candidates used the division algorithm of fractions instead of multiplication as required: $8 \times \frac{4}{1} = 32$. Some of those candidates who worked out the product correctly lost a mark for leaving their answer without simplifying it.

Expected response: *2*

(c) In this question, the candidates were required to work out 68.7 ÷ 100. Most candidates presented answers which indicated division by either 10 or 1 000 such as 6.87 or 0.0687. Some candidates lost a mark by presenting their answers as 0.68 after dividing correctly.

Expected response: *0.687*

Question 4

(a) In this question, the candidates were given the information that *Grace bought 4 tyres and a battery for her car. She paid E610 for the battery. In total she paid E2 270 for all the items.*

(i) In part **(a)(i)** of the item, the candidates were required to calculate the cost of the four tyres. To get the correct answer, the candidates were expected to subtract the cost of the battery from the total amount, that is, E2 270 – E610. The most popular incorrect response resulted from candidates adding the cost of the battery to the cost of total she paid for all the items. Others multiplied the cost of the battery by four like this E610 × 4.

Expected response: *E 1 660*

(ii) After calculating the cost of the four tyres in part (a) (i), the candidates were expected to work out the cost of each tyre in this part of the item. It was pleasing to note that a majority of the candidates who worked out part(a)(i) correct obtained the correct answer even in this part. Instead of dividing E 1 660 ÷ 4, some candidates multiplied E610 × 4.

Expected response: *E415*

(b) The candidates were asked to complete a mapping diagram given the input set {18, 12, 6} and the rule ÷3 . An overwhelming number of candidates were able to divide each number in

the input by 3 to get the output set as required. A few candidates multiplied each number in the input set by 3 resulting to the output set {54, 36, 18}.

Expected response: Output set = {*6, 4, 2}*

Question 5

The candidates were required to construct a triangle given two sides and the angle between the sides. They were guided step by step.

(a) In this part of the question, the candidates were required to draw the line *PQ* = 7 cm from a given point *Q*. A few candidates were able to draw the required line. A majority drew the line from their own point *P*. Others did not draw the line according to the given length. Candidates must be encouraged that when a question says daw line *PQ*, it also requires them to label point *Q* after drawing the line.

(b) The candidates were asked to draw angle *PQR* = 75° using a protractor and a ruler such that *QR* = 6 cm. A few candidates were able to draw angle *PQR* = 75°, with *QR* = 6 cm . Some of the incorrect responses included drawing angle *PQR* = 75° at point P as the vertex, while others failed to mark *QR* such that *QR* = 6cm. Generally, most candidates failed to draw accurate lines with the given lengths in this question.

(c) This question required the candidates to join *P* and *R* to form triangle *PQR*. A majority of the candidates were able to join their *P* and *R* to form their triangle *PQR.*

(d) The candidates were asked to measure the length of *PR* in this question. Similarly, to the other parts of this question which required the candidates to measure lengths using their rulers, a few were able to measure the length of *PR* accurately.

Expected response: *7.9 cm* $\pm$ *0.1 cm*

(e) Lastly, the candidates were asked to name the type of triangle *PQR* formed. It was gratifying to note that a majority of candidates scored a *follow through* mark for naming correctly their triangle *PQR*. A few candidates instead of writing names of triangles wrote names of angles.

Expected response: *Scalene*

Question 6

A majority of the candidates scored all the marks in this question. The candidates were given a polygon ABCDEF drawn on a grid.

(a) In this part of the question, the candidates were asked to name polygon *ABCDEF*. To get the required answer the candidates were expected to deduce the number of sides of the polygon, then name the figure accordingly. Some common wrong responses included the following: house, heptagone, hepxagon, kite, polygon, doghouse and pentagone.

Expected response: *Hexagon*

(b) The candidates were required to name any right angle in the polygon *ABCDEF.* The expectation was that candidates would use three capital letters were naming their right angle. Whilst a majority of the candidates were able to identify a right angle in the figure, a few used commas in between the three letters which is conceptually wrong for instance A, F, E and F, E, D. In addition, some only wrote the letter of the vertex such as F and E.

Expected response: *Angle AFE or angle DEF*

(c) In this question, the candidates were asked to name any two parallel sides in the polygon *ABCDEF.* A majority of the candidates failed to name the parallel sides in the figure. The most popular incorrect responses were *ABCD* and *FEAD.*

Expected response: *BC and FE*

(d) This question required the candidates to calculate the area of the polygon. They were expected to count the full squares then add the half squares or alternatively use the formula: Area = number of full squares + $\frac{\text{number of half squares}}{2}$. Some candidates did not distinguish between full squares and half squares, hence they wrote 18 square units as their response while others only counted the full squares and wrote 14 as their answer. A few calculated the perimeter of the polygon.

Expected response: *16*

Question 7

The candidates were given the information: *Peter has 3.4 litres of juice in a jar. Later he adds* $\frac{3}{4}$ *litres.*

(a) In this part of the question, the candidates were required to change $\frac{3}{4}$ to a decimal fraction. A majority of the candidates scored a method mark for using the long division method correctly to change the fraction. Some lost marks due to failure to place the dividend and the divisor in the long division appropriately. Many candidates who used the short division lost the accuracy mark for failing to complete their division. They recorded their responses as 0.7, 0,07 or 0.075.

Expected response: *0.75*

(b) Most candidates did not get the expected response in this part of the question. It was expected that the candidates use their response to part (a) to work out the total amount of juice Peter has after adding the $\frac{3}{4}$ litres of juice. Some candidates who seemed to struggle to change realized this. Consequently, they added their part(a) to 3.4 litres.

Expected response: *4.15 litres*

Question 8

(a) The candidates were asked to calculate $2\frac{3}{4} \times \frac{1}{6}$. While a majority of the candidates were able to change the mixed number $2\frac{3}{4}$ to an improper fraction before multiplying as expected, a few lost marks by using the addition algorithm. Consequently, the most popular incorrect response was $\frac{35}{12} = 2\frac{11}{12}$.

Expected response: $\frac{11}{24}$

(b) In this question, the candidates were given the following word problem: *Asivunisane Cooperatives produced 2 820 litres of liquid soap. The cooperative packs the soap into 15 litres buckets. Calculate the number of buckets they get.* While many candidates were able to divide 2 820 ÷ 15 as required, a few multiplied 2 820 × 15.

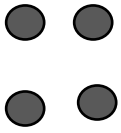
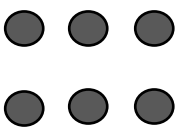
Expected response: *188*

(c) The candidates were given the following information: *A house plan has the scale 1 cm represents 50 cm. Calculate the actual length of a veranda that is 8 cm on the plan in metres.* A majority of the candidates were able to calculate correctly the actual length of the veranda. The common method used was to multiply 50 × 8. Some candidates lost a mark for failing to convert their responses to metres. A few candidates divided 50 ÷ 8 instead of multiplying.

Expected response: *4 m*

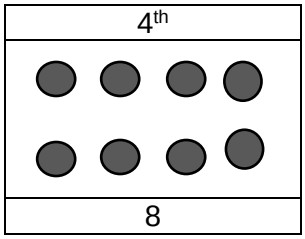
Question 9

The candidates were shown a pattern formed by circles in a table.

Position	1st	2nd	3rd	4th	…
Diagram					…
Number of circles	2	4	6		…

(a) In this part of the question, the candidates were required to complete the pattern and state the number of circles in the 4th position. Many candidates completed the pattern as required. A few candidates lost a mark for failure to present the circles in the correct orientation. Other candidates lost a mark for not drawing the circles as asked.

Expected response:



(b) This part of the question required candidates to determine the position in the pattern which will have 14 circles. A majority of the candidates found the required response by dividing 14 by 2. other candidates worked out the position by extending the pattern.

Expected response: *7*

(c) Many candidates attempted this question correctly. The candidates were asked to calculate the number of circles in the 20^{th} position. A majority got the correct response by multiplying 20 by 2. A popular wrong response resulted from candidates diving 20 by 2.

Expected response: *40*

Question 10

(a) The candidates were given the following word problem: *Anzi collects water from the village tape. The tape releases 4 litres of water every 12 minutes when fully opened. How many minutes will it take Anzi to collect 120 litres of water?* A few candidates were able to get the required response. This was a direct proportion question were the candidates were expected to first calculate the time it takes to collect 1 litre of water from the tape, that is, $\frac{12}{4}$ minutes. The second part to the problem was to multiply $\frac{12}{4}$ by 120. A majority of the candidates did not complete their responses as they presented their responses as either $120 \div 4 = 30$ or $120 \times 12 = 1\,440$.

Expected response: *360 minutes*

(b) This question required the candidates to change 420 minutes to hours. The candidates were expected to divide 420 by 60($420 \div 60$). It is worth mentioning that other candidates obtained the correct response by using repeated addition of 60 minutes 7 times. Whilst many candidates who lost marks failed to recall that 1 hour = 60 minutes, hence they divided 420 by 24, others subtracted 60 minutes from 420 but stopped before reaching the 7^{th} 60 minutes. Thus, most recorded 6 hours as their response.

Expected response: *7 hours*

Question 11

The candidates were given the information: *Busiswa bakes cakes for a living. She sells each cake for E40.*

(a) In part(a) the candidates were asked to work out the income she gets from selling 200 cakes. Many candidates multiplied 200 by 40 as expected. Most incorrect responses in this question were a result of arithmetic errors in the multiplication. Hence the most common incorrect response was E800. An incorrect response such as E200 + E40 was also seen.

Expected response: *E8 000*

(b) The candidates were given the information that *it costs Busiswa E5 000 to bake 200 cakes.*

(i) in the first part of this question, the candidat4s were asked to calculate the profit she makes from selling the 200 cakes. The candidates who understood profit as Selling price minus the cost price, calculated the profit as required. Those candidates who lost marks in this part demonstrated lack of knowledge of the concept profit. They calculated their profit as E5 000 – E200. Others calculated using the number sentence 200 – 40.

Expected response: *E 3 000*

(ii) In part(ii), the candidates were required to *work out her percentage profit from selling the 200 cakes.* To calculate the profit, the candidates were expected to use the fact that *percentage profit* $= \frac{profit}{\cos t\ price} \times 100\ \%$. A few candidates were able to get the required response. The most common incorrect response emanated from candidates using the income as the denominator in their working, that is, $\frac{3000}{8000} \times 100\,\%$

Answer: *60%*

Question 12

In this question, the following information was provided to the candidates: *Mrs Mvubu bought 914 257 grams of sugar at a factory store. She bought another 956 743 grams of sugar at a wholesale.*

(a) This part of the question, the candidates were asked: *In which place did Mrs Mvubu buy less sugar?* While a majority of the candidates stated the correct place, some instead of comparing the given masses of sugar either added or subtracted the given masses.
Expected response: *Factory store*

(b) This part of the question required the candidates to calculate the total mass of sugar Mrs Mvubu bought in kilograms. The candidates were expected to add the two given masses then divide the sum by 1 000. Although a majority of the candidates were able to calculate the total amount of sugar Mrs Mvubu purchased, some were unable to convert this mass to kilograms. The most common incorrect response was a result of failure to comprehend the mathematical meaning of "total", hence they subtracted the two masses instead of adding them.

Expected response: *1 871 kg*

Question 13

In this question, the candidates were given the following data: *There were four media of learning during the covid-19 national lockdown. There were Radio, Television, WhatsApp, and Newspaper. The table shows the media of learning preferred by learners in a certain class.*

Media of learning	*Number of learners*
Radio	*20*
Television	*10*
WhatsApp	*15*
Newspaper	*5*

Overall many candidates attempted this question well.

(a) The candidates were required to state the number of learners who preferred WhatsApp in the class. Most candidates determined correctly the number of learners who preferred WhatsApp as expected.

Expected response: *15*

(b) In this part of the question, the candidates were expected work out the total number of learners in the class. Many candidates worked out the total number of learners as required. The most common incorrect response was a result of arithmetic error in the addition of the frequencies.
Expected response: *50*

(c) A few candidates were able to identify the media of learning preferred by one-fifth ($\frac{1}{5}$) of the learners in the class as required. The candidates were expected to multiply $\frac{1}{5} \times 50$ then use the result to select the correct media. Another common correct method used by some of the candidates who understood the question simplified the common fraction of learners who preferred each media ($\frac{10}{50} = \frac{1}{5}$). Candidates are encouraged to answer the question fully by stating the media after completing the calculation. There was evidence that some candidates were guessing the required media.

Expected response: *Television*

(d) The candidates were asked to calculate the sector angle for the learners who preferred Newspaper in the class. A few number of candidates were able to complete the calculation correctly. The candidates were expected to multiply the fraction of learners who preferred Newspaper by 360° ($\frac{5}{50} \times 360^\circ$). A common incorrect response seen resulted from those candidates who used the wrong fraction when multiplying by 360°.

Expected response: *36°*

(e) The candidates were given the subsequent information: *Five of the learners who preferred Television were asked to state the amount of time they spent watching television. Their times were recorded in hours as follows: 1, 1, 4, 5, 5.* The candidates were asked to state the median time for these learners. While a few candidates ordered the data before locating the median, many candidates did not order the data. As a result, the most common incorrect response was 4.

Expected response: *3*

Question 14

The following list of numbers was provided for the candidates in the question: 1, 2,3,4,6,8,9,10,12. The candidates were instructed to use the numbers from this list.

(a) The candidates were required to write all the multiples of 4 from the list. While the question was fairly done, some candidates lost marks by including multiples of 4 that were not from the given list. The other common incorrect response resulted from candidates writing the factors of 4, that is, 1, 2, 4.

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Expected response: *4,8,12*

(b) The candidates were required to state the Lowest Common Multiple(LCM) of 4 and 6 in this part of the question. A majority of the candidates were able to state the LCM as required. The popular wrong response was 12, 24… which was the list of common multiples of 4 and 6.

Expected response: *12*

(c) In the last part of the question, the candidates were asked to write all the even numbers greater than 7 from the list. A majority of the candidates failed to score any marks in this question. Instead of writing all the even numbers greater than 7 from the list, some listed the odd numbers whilst others listed multiples of 7.

Expected response: *8, 10, 12*

Question 15

In this question, the candidates were given a figure showing a rectangular plot with a width = 56 m. In addition, they were given the information that the length of the plot is 23 m more than its width.

NOT TO SCALE

Fig 15.1

(a) In the first part of the question, the candidates were asked to calculate the length of the plot. To calculate the length of the plot, they were expected to add 56m and 23m (56 +23). Some common incorrect responses included 56 – 23, 23 +23 or 23

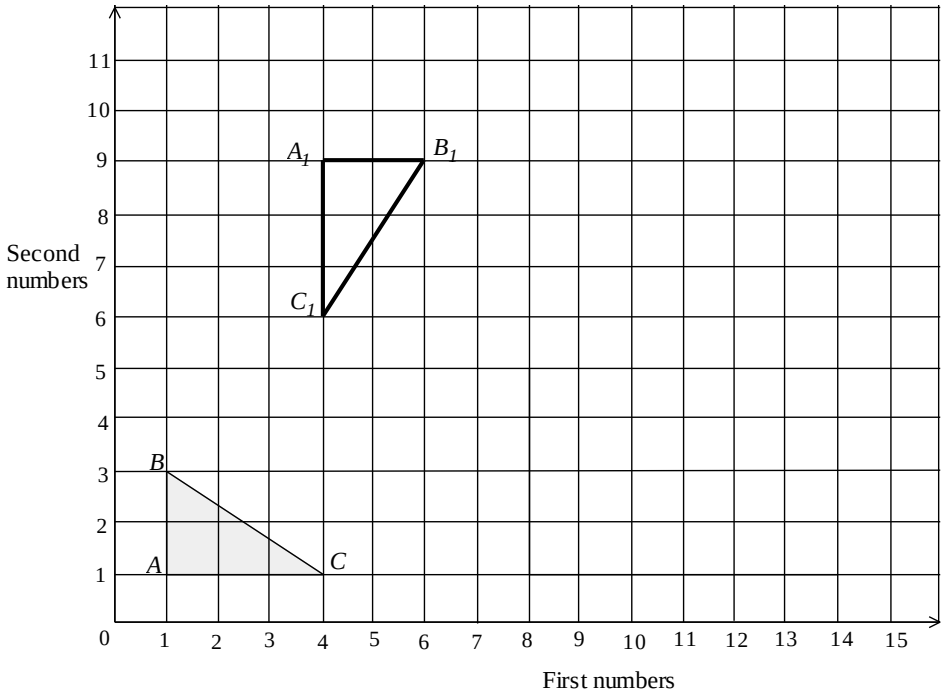
Expected response: *79m*

(b) This question was poorly done since a few candidates were able to calculate the perimeter of the plot as required. After calculating the length of the plot in part(a), the candidates were expected to use their result when calculating the perimeter. Some of the common incorrect responses included 56 + 56 + 23 +23 or 79 × 56

Expected response: *270 m*

Question 16

In this question, the candidates were given a coordinate diagram with tringle $A_1B_1C_1$ drawn on it.



(a) In part **(a)**, the candidates were asked to plot the points *A* (1, 1); *B* (1, 3) and *C* (4, 1) on the coordinate diagram. Most candidates were able to plot and label the given points correctly. Some candidates lost a mark due to failure to label the points appropriately. Others lost marks for interchanging the first number and the second number when plotting the points. In such questions, it is advisable to encourage the candidates label the points as they plot them.

(b) Part **(b)** was a follow up from part (a) that asked the candidates to join the points they have plotted in the given order forming triangle *ABC.* Many candidates joined the points in the given order to form the triangle as required. A few candidates did not join all the three points but instead joined just two points. Hence their resulting shape was not a triangle. Others did not join the points at all.

(c) In this part of the question, the candidates were required to describe the movement from triangle *ABC* onto triangle $A_1B_1C_1$. A few candidates described the movement correctly. The most common response indicated that the candidates interpreted the movement as a double movement which involved a sliding and a rotation. Hence the most common response was 5 up then a rotation through a quarter turn clockwise.

Expected response: *Rotation through a quarter* ($\frac{1}{4}$) *turn clockwise or Rotation through three- quarter* ($\frac{3}{4}$) *turn anti-clockwise.*