EXAMINATIONS COUNCIL OF ESWATINI

EPC

EXAMINATION REPORT

FOR

MATHEMATICS

2020

MATHEMATICS PAPER 1 212/01

General comments

The 2020 EPC Mathematics Paper 1 general performance of Candidates was above average. It was noted that Section A (multiple choice) significantly contributed to the good performance of Candidates in this paper. In this Section, it was also observed that there are still centres who ignored the use of the provided grid to write their choices. It remains to be emphasised that Candidates should follow the instructions provided in the Question Paper. The main comments on responses of Candidates in Section A were mainly based on the popular wrong choices noted in each question. In some cases the choice of wrong options was evenly distributed amongst the three options, which made it difficult to trace a possible cause for this than to say that the distractors were effective in selecting the Candidates who knew the concept which was tested.

Candidates' responses in Section B was impressive in the sense that they clearly showed their working. However, it is worth mentioning that there are still Centres who encourage Candidates to write their working using a pencil and the final answer written in a pen. Again, Centres should discourage Candidates from using pencils.

Comments on Specific Questions

Section A (MULTIPLE CHOICE)

Question 1

Choose a pair of odd numbers from the following:

    A   68 and 70

    B   69 and 73

    C   86 and 89

    D   74 and 67

Candidates in this question performed very well as a majority of them chose the correct option, which was B. There was an evenly distributed choice with the other options. This suggests that in the choice of the wrong options Candidates focused on the one number which was odd ignoring that this was to be taken as a pair.

Answer: B

Question 2

Work out $6 \times 0 \times 5$

Responses of candidates in this question indicated that it was simple as a high number of them chose the correct answer. However, it was noted that a high number of candidates chose the wrong option D which indicated a misconception with multiplication by the powers of 10.

Answer: A

Question 3

Write 100 10 in words.

Most candidates in this question performed well as they chose the correct answer. The popular wrong choices were B and A, in a way showing some misconceptions concerning place values.

Answer: D

Question 4

Calculate 5.6 – 2.521

In this question, a majority of candidates chose the correct answer. However, a popular wrong choice was B indicating their difficulty in regrouping when subtracting numbers.

Answer: A

Question 5

Which of these statements is true about a rectangle?

      A   All angles are equal

      B   All sides are equal.

      C   It has four lines of symmetry.

      D   The sum of interior angles is $180°$

Candidates' choice in this question, indicated that they had difficulties in differentiating between a rectangle and square as the popular choice was B. It seems like for these candidates the sides in these four-sided flat shapes does not mark a difference between the two.

Answer: A

Question 6

Identify the number, which is **not** a prime number.

      A   11

      B   13

      C   27

      D   41

An average performance by candidates was noted in this question. The choice of a wrong option was evenly distributed amongst the three options.

Answer: C

Question 7

Vuli left home at 8.00 pm and returned after six hours.

At what time did he return?

      A   2.00 p.m.

      B   1.00 a.m.

      C   2.00 a.m.

      D   3.00 p.m.

Candidates showed an understanding of the concept of time as a majority of them chose the correct answer. A popular choice was A, this indicated a confusion of the use of pm and am.

Answer: C

Question 8

Calculate the size of angle *a.*

In this question, candidates were expected to apply their knowledge of finding a missing angle in a straight line. In applying their knowledge, they were suppose to recall the sign used to represent a right angle. Their response showed that the task was easy for them as a majority of them chose the correct answer. However, it was noted that the popular wrong choice was C, this was caused by an arithmetic error in their calculation.

Answer: B

Question 9

Change 800 centimetres into metres.

This task proved to be very easy for candidates, as majority of them chose the correct answer. Choice of the wrong option was evenly distributed amongst the three options.

Answer: D

Question 10

Work out the total number of days in the months of June and July.

In this question Candidates performed very well as a majority of them chose the correct answer. The popular choice here was B indicating that for some candidates thought that all months were equal to 30 days.

Answer: C

Question 11

What is **8** Thousands **3** Hundreds **0** Tens **9** Ones equal to?

This question proved to be very easy for a majority of Candidates as they were able to choose the correct answer. Candidates' choice to the other options was evenly distributed.

Answer: B

Question 12

Choose, from the following, a number which is less than 6.001.

Candidates in this question demonstrated an above average ability of comparing numbers with decimal points as majority of them were able to choose the correct answer. A popular wrong choice was D, which means these candidates compared the amount of numbers after the decimal point.

Answer: B

Question 13

Which shape can be folded to form a closed box?

Performance of candidates in this question was average. However, it was observed that popular wrong options were B and D. This indicates their difficulty in folding a net and coming up with a closed box.

Answer: A

Question 14

The sum of 328 and 635 is subtracted from the product of 10 and 100.

Choose a number sentence that describes the above statement.

      A   (328 + 635) – (10 × 100)

      B   (635 – 328) – (100 ÷ 10)

      C   (100 × 10) – (635 + 328)

      D   (100 ÷ 10) – (328 + 635)

A majority of candidates were able to choose the correct number sentence. In this question, the popular wrong choice was D indicating the difficulty of these candidates in interpreting the use of product in the statement.

Answer: C

Question 15

Work out 4 + 2 × 4.

This task proved to be very easy for a majority of candidates as they were able to choose the correct answer. This showed that candidates had a clear understanding of the application of the BODMAS rule. However, it was noted that there are those who chose the wrong option C as their answer indicating that they followed the operations in the order presented in the problem.

Answer: B

Question 16

What is the perimeter of an equilateral triangle with each side equal to 15 cm?

      A   15 cm

      B   30 cm

      C   45 cm

      D   60 cm

The performance of candidates in this question was above average as majority of them chose the correct answer. The popular wrong choice was D, this indicated that these candidates confused an equilateral triangle with a quadrilateral.

Answer: C

Question 17

How many 500 grams are there in 8 kilograms?

     A   4

     B   14

     C   16

     D   32

The question expected candidates to demonstrate their ability to convert grams to kilograms. The performance of candidates in this question was average, a popular wrong choice was A. It was suspected that these are Candidates who converted 500 grams to kilograms and the difficulty was in working out

$8 \div \frac{1}{2}$, and at this point they forgot to multiply by the reciprocal hence their answer was 4.

Answer: C

Question 18

A lorry travels 255 km in 5 hours.

How far does it travel in one hour?

     A   39 km

     B   42 km

     C   51 km

     D   510 km

This problem solving task proved to be very easy for a majority of Candidates as they were able to choose the correct answer. Popular wrong choice was evenly distributed amongst the three options.

Answer: C

Question 19

Which of the following sets of numbers are factors of 54?

     A   {6, 8, 9}

     B   {2, 3, 8}

     C   {3, 9, 18}

     D   {6, 9, 14}

This question proved to be very easy for a majority of Candidates as they were able to choose the correct answer. A popular wrong choice was D, this means these Candidates considered the first two numbers in the set and concluded that all the numbers were factors of 54.

Answer: C

Question 20

Anele and Tenele are sisters.

In 2019 Anele was six years old and Tenele was fifteen years old.

When will Tenele be twice as old as Anele?

      A   2021

      B   2022

      C   2023

      D   2024

This was a problem solving question and it proved to be a challenge to a majority of candidates. Judging from the popular wrong choice A, it was noted that Candidates had difficulties in interpreting the question, they simple added two to the given 2019. This might have been be caused by their interpretation of twice to mean add two.

Answer: B

Section B

Question 21

(a)   The question expected Candidates to add 43 and 217. It was observed that Candidates were able to respond to the task by aligning these numbers in a vertical format and correctly added the numbers. Those who got wrong answers did not align the addends vertically, but added horizontally as the numbers were presented in the question. Also, it was noted that some Candidates failed to align the digits correctly such that their working was presented as

shown below:

43 + 217   aligned as 43

                  <u>+217</u>

                  <u>647</u>

Answer: 260

(b)   The question required Candidates to divide 18 by 4. Most Candidates were able to work out the problem and got the correct answer 4 rem 2. In as much as the Candidates were able to get the correct answer, there are those who indicated a misconception 4 rem 2 being the same as 4.2 as they wrote it as their final answer.

Answer: 4 rem 2

(c)   This question expected Candidates to be able to subtract 9.5 from 23.14. It is worth mentioning that a majority of Candidates performed well in this task and got the correct answer 13.64. However, there are those who indicated that there had difficulties with regrouping, they simple subtracted the small numbers from bigger numbers and hence got 26.44 as their answer.

Answer: 13.64

(d)   Candidates were expected to work out 240 ÷ 3 × 8 in this question, it was noted that a majority of them demonstrated their understanding of application of BODMAS rule. Some even though they followed the operation sign as per BODMAS rule they failed to divide 240 by 3, as they got 8 instead of 80 and then multiplied the 8 by 8 and got 64, yet they were expected to multiply 80 by 8 to get 640. It was also observed that there were those who started by multiplying 3 and 8 and proceeded to divide 240 by 24 and got 10 as their answer.

Answer: 640

(e)   The question was expecting Candidates to demonstrate their ability to multiply a fraction by a fraction. It was noted that half of the Candidates performed well in this question. A majority of those who were unable to multiply the fractions, showed a confusion with adding fractions. For these Candidates their working was as shown below:

$$\frac{1}{6} \times \frac{3}{4} = \frac{4 \times 18}{24} = \frac{72}{24} = 3$$

There were also those who simply added the numerators and denominators:

$$\frac{1}{6} \times \frac{3}{4} = \frac{4}{10}$$

Answer: $\frac{3}{24}$

Question 22

(a)   This question was testing the ability of Candidates to round off 0.383 to the nearest tenth. This question proved to be easy for a majority of Candidates as they were able to get 4 as their answer. But it was noted that there were those who rounded off the given number to the nearest hundredths. This suggests that the Candidates failed to identify the tenth digit. Answers for these Candidates were written as 0.38.

Answer: 0.400

(b)   Candidates in this question were expected to demonstrate their ability of interpreting a mathematical word problem to find a difference between two given distances. It was observed that Candidates performed well in this question by presenting a correct response in their working. However, there were cases where some Candidates added instead of finding the difference between the two distances.

Answer: 2.729

Question 23

(a) This question was testing Candidates' knowledge of converting 0.35 into a fraction in its simplest form. It was noted that most Candidates were able to convert the decimal number into the fraction $\frac{35}{100}$, but failed to reduce the fraction into its simplest form $\frac{7}{20}$. There were also those Candidates who converted 0.35 to be $\frac{35}{10}$. This suggests that these Candidates identified the first digit from the decimal point to the right as the "Ones" digit, then the tenth, hundredths and so on, yet there is only one digit that is in the Ones place.

Answer: $\frac{7}{20}$

(b) This question was expecting Candidates to demonstrate their ability to work out 9 weeks   4 days plus 6 weeks 4 days. A majority of Candidates performed well in this task. The difficulty noted was that some Candidates failed to convert 8 days to weeks. Some Candidates changed the weeks into days and presented their answer as 113 days.

Answer: 16 weeks 1 day

(c) Candidates were expected to interpret and respond to the problem presented below:

Linda spent E4.50 on buying a pen. On buying an exercise book, he spent E1.20 more than on buying a pen. How much money did Linda spend on buying the pen and exercise book? his task proved to be challenging to a majority of Candidates. They responded to the question by adding E4.50 and E1.20 and got E5.70. This indicates a failure in properly interpreting the question.

Question 24

(a) In this question Candidates were expected to arrange the numbers 27 048, 20 784, 27 840, 24 807 in order of size starting with the largest. It was observed that a majority performed well in this question. There were few cases where the arrangement started with smallest indicating a misunderstanding of the question. For others it was copying the numbers wrongly.

Answer: 27 840, 27 048, 24 807, 20 784

(b) (i) Candidates were required to solve the word problem:

Mrs Khumalo prepared 3.5 litres of orange juice to serve her guests. She poured exactly 400 *ml* of orange juice into each cup. Find the highest number of cups of orange juice that she served her guests. The question proved to be a challenge to a majority of Candidates, it was noted that the main difficulty was converting 3.5 litres to *ml.* These Candidates simply divided 3.5 litres by 40*ml*. They failed to recall that to solve the problem they had to work with the same units.

Answer: 8 cups

(ii) In this part of the question, Candidates were supposed to calculate the amount of juice that was left. They performed well in this question by using a proper method of subtracting their answer in b(i) from 3500 *ml.*

Answer: 300 *ml*

Question 25

(a)   Candidates were expected to solve the word problem:

Seluleko has E18, Every week, he saves E4. The task was for Candidates to complete a table by writing the amount of money he had at the end of each week. A majority of Candidates ignored adding the weekly money saved to E18, so for their answers they had E4 1ˢᵗ week, E8 2ⁿᵈ week and E12 3ʳᵈ week. This indicated a misunderstanding of the question by Candidates.

Answer:

Week	Amount of money at the end of each week (E)
1ˢᵗ Week	E22
2ⁿᵈ Week	E26
3ʳᵈ Week	E30

(b)   In this question, Candidates were expected to calculate the amount of money Seluleko saved in the 3ʳᵈ week than the 1ˢᵗ week. Candidates' responses indicated a proper understanding of the question as they were able to use the right method even if their answers in (a) were wrong.

Answer: E8

Question 26

(a)   (i)   This was a data handling question, expecting Candidates to calculate the number of children who liked pears from a group of 60 children which were presented in a table. This task proved to be very easy for a majority of Candidates as they were able to use the correct method to find the solution. There were only a few cases where Candidates wrote their answers as zero without showing any working.

Answer: 10

(ii)   This part of the question required Candidates to write the number of children who like apples as a fraction. They performed very well in this question which means there was a correct interpretation of information from the given data.

Answer: $\frac{15}{60}$

(iii) A majority of Candidates were able to calculate the sector angle of children who liked oranges. Misconceptions noted from Candidates was calculating the sector angle like;

$\frac{20}{60} \times 180° = 60°$; $\frac{20}{60} \times 90° = 30°$

Answer: 120°

(b)   Candidates were expected to draw a bar chart to represent the information on a table. This proved to be an easy task for a majority of Candidates, the only difficulty noted was labelling the axis and writing the title for the bar chart.

Question 27

(a)   (i)   In this question, Candidates were expected to measure a given angle. From their answers it was observed that they had no difficulty in measuring the angle. Wrong answers showed failure in reading their protractors, reading the inner or outer scale, hence the popular wrong answer was 60°.

Answer: 120°

(ii)   Naming of the angle that Candidates had measured in (i) was very easy, even those who had their answer as 60° wrote the name of the angle as acute.

(b)   Candidates in question (i) – (iii) were expected to write the points located at (6, 0) (3,1) and (5,2). Responses of Candidates to this task proved that it was very easy. However, there are those who confused second number with first number thus instead of writing point A as (6,0) to them it was T which was point (0,6).

Answer: (i) (6,0) A   (ii) (3,1) Z   (iii) (5,2) Q

Question 28

(a)   The question was testing Candidates ability to calculate interest of money deposited in a bank for a period of one year. A majority of Candidates were able calculate the interest by using the correct method. But a popular wrong method which was noted was calculating the interest

as: $\frac{5}{1500} \times 100 = \frac{1}{3}$. Others presented their working as 5% × E1500 .This suggests that these Candidates lacked proper understanding of the concept of percentages.

Answer: $\frac{15}{100} \times$ E1500 = E75

(b)   This question was testing Candidates' knowledge of calculating profit after buying a music system for E6 385 and spending E80 for transportation and later sold the music system for E7 300. A majority of Candidates performed very well in this question. Although some errors were observed from Candidates' working when they were subtracting E6 385 from E7 300.

Answer: E7 300 – (E6 385 + E80) = E835.00

Question 29

(a)   Candidates in this question were expected to calculate the length of time spent in 6 lessons each being equal to 40 minutes. It was observed from Candidates' working that they had proper understanding for this question and a majority of them performed well in this question. The only error noted was failing to multiply 6 by 40.

Answer: 6 × 40 *min =* 240 mins or 4hrs

(b)   This was a direct proportion question where Candidates were expected to calculate the amount of petrol used by a car to travel 40 km, if for every 10 *km* the uses 2 litres of petrol. An average performance by Candidates was observed in this question. Wrong working that was identified from Candidates was multiplying 40 by 2 or 10 by 10. This indicated a misunderstanding of this question by Candidates.

Answer: 8 *l*

Question 30

This was a space and shape question where Candidates were expected to reflect a quadrilateral through given mirror line. Response by a majority of Candidates indicated that this task was very easy

MATHEMATICS PAPER 2 (212/02)

GENERAL COMMENTS

The highest raw score mark in this paper was 99% and lowest mark was 1%. This shows that no candidate scored 0% as compared to previous years. The mean mark was 42%. It is gratifying to note that most candidates try to show all necessary working when attempting the items. Having said that, there are isolated centres that continue to use pencil for their working. Worse, in some centres, the candidates would write their working then later erase it. This practice jeopardises the efforts of the candidates as it result in the loss of marks. The nature of this paper requires the candidates to show mastery of the process to the answer as it is a structured/longer answer paper.

A majority of the candidates demonstrated challenges in the concept of time, shapes and problem solving. In the concept of shapes, in particular, candidates used wrong nomenclature for lines, angles, and flat shapes using letters. They put commas in between the letters. For instance, in question8 (a) the candidates wrote *M, N* as the line representing the diameter of the circle instead of *MN*. Similarly, to the previous year, only a few candidates were able to state a rule of a pattern when given the position. Generally, questions 4(b), 6(c), 7(b) (i), 9(a) and 19 were easy for a majority of the candidates and questions 2(b), 7(a), 9(b), 10(c), 11(c) and 15(d) were the most difficult.

SPECIFIC COMMENTS ON QUESTIONS

Question 1

(a) In this item, the candidates were required to write the number shown in a spike abacus in numeral form. This item was poorly done. Most candidates did not put the decimal point in the number as required. Consequently, the most common incorrect response was 2531406.

   Answer: *25 314.06*

(b) This item required the candidates to calculate the number of rings a jewellery artisan makes from cutting 4 cm pieces from a 150 cm roll of wire. Instead of dividing 150cm by 4 cm, a majority of the weak candidates multiplied 150 cm by 4. Others divided correctly but failed to interpret the remainder correctly. They either rounded up to the nearest whole number or left their response with the fractional part such as 37.5 rings.

   Answer: *37 rings*

Question 2

(a) In this question the candidates were required to write the signs >, < or = to make the given statements true. This question was well attempted by the candidates. However, some candidates rewrote the statements using words instead of comparing the given quantities using inequalities.

    (i) In this part of the question the candidates were expected to compare 0.318 and 0.4. A majority of the weak candidates wrote 0.318 > 0.4 as their response which is wrong.

    Answer: 0.318 < 0.4

    (ii) The candidates were required to compare 2 weeks and 12 days. This task was difficult for a majority of the weak candidates as they write 12 days > 2 weeks.

    Answer: 2 weeks > 12 days

    (iii) The candidates were expected to compare $\frac{3}{5}$ km and 600 m. Most candidates were unable to realize that the two quantities were equal. Thus a majority wrote $\frac{3}{5}$ km > 600m.

    Answer: $\frac{3}{5}$ km = 600 m

(b) In this item, the candidates were expected to complete the sentence using the spreading property. This item was the most difficult in this paper as a majority of the candidates instead of using the spreading property simply added 56 and 35.

    Answer: 7(8+5)

Question 3

(a) This item required candidates to name the given polygon by counting the number of sides. A majority of the candidates failed this item. They named the shape as a square.

    Answer: hexagon

(b) The candidates were expected to calculate the perimeter of the shape by counting the squares around the shape. Most candidates could not calculate the perimeter of the shape. Some of those who got the correct perimeter wrote the wrong units such as cm^2, cm^3, squares. Some ignored the given fact in the question that each square was 1 cm by 1 cm.

    Answer: 24cm

(c) In this item the candidates were required to calculate the area of the shape by counting the inside squares. Some of the less achieving candidates failed to differentiate between area and perimeter, hence they wrote the perimeter of the shape as the area. Similarly, to the previous item that required the candidates to calculate the perimeter of the shape, some candidates failed to use the correct units for area.

    Answer: $25cm^2$

Question 4

(a) In this item, the candidates were required to calculate the cost of 13 bags given that the cost of 30 bags of rice was E2 7000. The item was fairly done. The candidates were able to work out the solution as $\frac{E2\,700}{30} \times 13$. A majority of the candidates who failed to score a mark in this item worked out their solution as E2 700 × 13 = E35 100. A few simply multiplied 13 by 30.

Answer: E1 170

(b) The candidates were expected to work out the remainder when 1 598 was divided by 68. This item was done exceptional well by a majority of the candidates. A few of the less achieving candidates could not complete the division correctly due to arithmetic errors.

Answer: remainder = 34

Question 5

(a) In this item, the candidates were required to construct angle *GHI*= 60°, using a ruler, a pair of compass and a pencil only. The line *HI* was already drawn for them. Most candidates did not follow the given instructions. They drew the angle using a protractor and then forced the arcs using their hand. Others lost marks by failing to label *G* as required.

(b) The candidates were instructed to bisect the side *HI* on the angle. This item was fairly done. Some candidates bisected the angle *GHI* instead of the side *HI.* Moreover, some of the candidates did not bisect the side using a compass.

Question 6

(a) In this item the candidates were required to state the item in which the school spent less amount of money. Most candidates were able to state the correct item.

Answer: Maintenance

(b) This item stated that the school spent the same amount of money each month for security in the year. The candidates were asked to calculate the amount of money the school spent on this item each month. The performance of the candidates in this item was average. Most incorrect responses resulted from candidates using the wrong operation such as adding the amount paid annually or dividing it by 30. There were isolated cases where candidates multiplied by 12 instead of dividing by the 12.

Answer: E 2 900

(c) The candidates were expected to calculate the amount the school spent on electricity and teaching materials altogether. A majority of the candidates performed exceptionally well in this item. A few of the candidates calculated the difference between the expenditure of the two items.

Answer: E72 400

(d) The candidates were required to work out the amount of money the school spent on water in 2019. They were given the information that the school spent 5% more money on water than in 2018. Therefore, to calculate the required amount, they were expected to first calculate 5% of E28 000 and then add this amount to E28 000. The performance of the candidates was fair in this item. Most incorrect responses resulted from the following errors;

- Calculating 5% of 2019.
- Failing to add 5% of E28 000 to E28 000.
- Calculating 5% of E28 000 as E140 instead of E1 400

Answer: E29 400

Question 7

(a)   This item was poorly done. The candidates were expected to calculate the amount of water Busi drank given that she drank $\frac{3}{4}$ times as much as Banele who drank 8 litres. Most candidates worked out the amount of water Busi drank as $8 \div \frac{3}{4}$. A few candidates calculated the amount of water as $8 + \frac{3}{4}$, while others wrote the correct multiplication sentence $\frac{3}{4} \times 8$ but interpreted this sentence as a mixed number. As a result they changed it to an improper fraction $\frac{35}{4} = 8.3$

It is worth mentioning that some candidates used various effective strategies to calculate the amount Busi drank. These strategies included the following:

- Making representations.

- Deducing that $\frac{1}{4} = 2$ litres, therefore to find the amount of water Busi drank adding 2litres + 2 litres + 2 litres.

Answer: 6 litres

(b)   In this item, the candidates were given data showing marks of 9 learners in a classwork. In the first part of the item the candidates were asked to calculate the difference between the lowest and the highest mark in the data. A majority of the candidates got this item correct. In the second part of the item, the candidates were asked to state the modal mark. Most candidates stated the correct modal mark indicating that the item was easy for them.

   (i) Answer: 6

   (ii) Answer: 6

Question 8

In this question the candidates were given a diagram showing a circle with centre *O* and the points *M, N, P* and *Q* on the circumference.

(a)   In this part of the question, the candidates were expected to state the line representing the diameter of the circle. A majority of the candidates named the diameter as *MP* instead of *MN*. Others lost a mark in this item by using commas to separate the letters, for example *M, N*. Commas are not used when naming lines using letters.

Answer: MN/MON

(b)   This item required the candidates to calculate the circumference of the circle given that its radius is 5 cm. They were expected to start by calculating the diameter of the circle = 2 × 3cm. After calculating the diameter, they were expected to multiply the diameter by 3 to get the circumference. A few candidates completed this item correctly. A majority of the candidates multiplied the radius by 3, that is, 3 × 5 cm. Some only calculated the diameter of the circle.

Answer: 30 cm

(c)   (i)   In this item, the candidates were expected to name any right-angled triangle in the diagram. The performance of the candidates was varied in this item as some named the correct triangle whilst others simply described what a right-angled triangle is. Others wrote 90°. A few lost marks by using incorrect nomenclature for triangles. For instance, a majority used commas to separate the letters such as *M, P, N*.

   Answer: MPN/NPM

(ii) The candidates were required to name any isosceles triangle in the diagram. A few candidates were able to name an isosceles triangle in the diagram. Similarly, to c (i) above, some lost marks by using the wrong notation for naming triangles by putting commas between the letters.

Answer: MOQ/NOQ

(iv) The candidates were asked to name a quadrilateral in the diagram in this item. A minority of the candidates were able to identify the quadrilateral in the diagram. A majority of the weak candidates used three letters to name their 'quadrilateral' instead of 4 letters.

Answer: MPNQ

Question 9

(a) This item was well done. The candidates were able to calculate the cost of buying the shirt and the jersey as required. They were given the information that Alice buys a shirt with a price E79.45 and a jersey with a price E189. 76 respectively. A few of the candidates did not put the decimal point in their answer separating Emalangeni and cents. Hence they lost accuracy marks.

Answer: E269.21

(b) This item was challenging for a majority of the learners. The candidates were asked to calculate the number of bricks that are needed to build a wall that is 3.5 metres high when using a brick which has a height that is 25 cm. To answer this item, the candidates were expected to convert 3.5 m to 350 cm before dividing by 25 cm. Some incorrect responses included the following:

- 3.5×25 cm
- $35 \div 25$
- $3.5 \div 25$ cm

Answer: 14 bricks

Question 10

In this question, the candidates were given diagrams showing a pattern. The same information that was depicted by the diagrams was represented in a table. The candidates were expected to answer questions based on this information.

(a) In this item the candidates were required to complete the pattern for the 4th position. A majority of the candidates completed the pattern correctly.

Answer: Number of black squares = 5

Number of white squares: 20

(b) The candidates were expected to calculate the number of white squares in the 7th position. A few candidates got the correct response in this item. A majority of the candidates calculated the number of white squares as either 36 or 49. A few candidates calculated the number of white squares for the 6th position.

Answer: 56 squares

(c) This item was a challenge for a majority of the candidates as they failed to state the rule for finding the number of white squares when given the position as required. A majority of the candidates wrote their rule as 'add 4'.

Answer: Position times (position plus one)/ position times number of black squares

Question 11

In this question, the candidates were given the information that Mrs Magagula cultivates maize for commercial use in a $2\frac{1}{5}$ hectares.

(a) The candidates were asked to change $2\frac{1}{5}$ hectares into m^2. This conversion was difficult for a majority of the candidates as they multiplied $2\frac{1}{5}$ by 1 000 instead of 10 000. Some changed $2\frac{1}{5}$ into an improper fraction reporting their answer as $\frac{11}{5}$ m^2.

Answer: 22 000m²

(b) In this item, the candidates were required to calculate the income Mrs Magagula got from selling 10 tonnes of her harvest to the local milling company at E4 300 per tonne. A majority of the candidates did well in this item. They were able to multiply E4 300 × 10 correctly. A handful of the candidates wrote the correct multiplication sentence but their answers showed that they had added instead, for example E4 300 × 10 = E4 310.

Answer: E43 000

(c) This item was poorly done. In this item, the candidates were expected to work out the profit first, E43 000 – E28 000 = E15 000. Then work out the percentage profit. A majority of the candidates calculated the profit correctly but failed to change this profit to percentage profit. The major challenge was choosing the correct denominator. The following incorrect responses were common among the candidates:

- E43 000 + E28 000

- $\frac{28\,000}{43\,000} \times 100$

- $\frac{15\,000}{43\,000} \times 100$

Answer: $53\frac{4}{7}$%

Question 12

In this question the candidates were given the fact that James travelled from Mbabane to Pretoria. In the first stage of the journey he travelled for 4 hours 36 minutes. He stopped for lunch for 43 minutes and then travelled the last stage of his journey in 1 hour 28 minutes.

(a)   The candidates were asked to find the total time James took in this journey. The performance of the candidates was average in this item. A majority of the candidates lost marks by failing to align the times correctly. A few lost marks by adding the times using base 10. Consequently, they gave 6 hours 07 minutes as the total time for the journey.

Answer: 6 hours 47 minutes

(b)   In this item, the candidates were told that James stopped for his lunch break at 12.15 pm. They were asked to work out the time James started his journey in the morning. This item was challenging for a majority of candidates since they could not identify the time they were supposed to subtract from 12.15 pm. Others failed to subtract correctly 4 hours 36 minutes from 12.15 pm as required.

Answer: 7.39 am or 0739 hours

Question 13

In this question the candidates were given the information that Vusi bought 29 boxes of apples with 82 apples in each.

(a)   In this item, the candidates were expected to work out the total number of apples Vusi bought in the boxes. Most candidates did well in this item. Even those who lost marks, it was due to arithmetic errors.

   Answer: 2 378

(b)   The candidates were required to find the total number of packets Vusi got from packaging the apples into packets of 5 apples each after finding that 3 apples were rotten. This item was fairly done. Most candidates did not subtract the 3 rotten apples before diving by 5. A few of the candidates just subtracted 3 from 5, that is, 5 – 3.

   Answer: 475 packets

Question 14

In this item, the candidates were given the information that a charity organisation had 2 fundraising concerts, collecting E12 500 and E18 700 respectively. The charity organisation shared the total money raised in the 2 concerts equally among 12 families. The candidates were expected to calculate the amount of money given to each family. This was a 2 step problem requiring candidates to calculate the total amount collected first and then divide this total by 12, the number of families. A majority of the candidates were able to find the total amount collected. A majority of the candidates had a challenge with the second step. They failed to get the correct quotient after dividing the total by 12. As a result, some got E26.00. A few weak candidates were clueless on what to do in this item.

Answer: E2 600

Question 15

In this question the candidates were given the points *W* (5, 2), *X* (7, 4) and *Y* (5, 8) which are three vertices of the kite *WXYZ*. They were told that the coordinates of point *Z* were not stated.

(a)   The candidates were required to plot on the given coordinate diagram, the points *W, X*, and *Y*. Most candidates plotted the given points correctly. Only a few candidates failed to plot the points correctly due to interchanging the first number with the second number. Some candidates did not label their points which resulted in a loss of marks.

(b)   In this item, the candidates were expected to join *W* to *X* and *X* to *Y*. Most candidates did well in this item. However, a majority of the weak candidates did not follow the given instruction. They ended up joining *W* to *Y* forming a triangle.

(c)   Most candidates plotted point *Z* as required in this item. A majority of candidates failed to plot *Z* correctly due to plotting *X* wrongly.

   Answer: Z (3, 4)

(d)   This item was difficult for a majority of the candidates. The candidates were asked to name the angle that was opposite angle *XYZ*. Most candidates wrote the name of the shape, that is, kite instead of the angle opposite angle *XYZ*. Other candidates wrote types of angles such as obtuse or acute. A few candidates wrote *W* as their response which was incorrect.

   Answer: XWZ / ZWX

(e)   This item was fairly done. The candidates were required to rotate kite *WXYZ* through a $\frac{1}{4}$ turn anti-clockwise about *Y*, labelling the image $W_1X_1Y_1Z_1$. A few candidates rotated the shape without recognising the given centre. Another minority did not label their image as instructed.

Question 16

In this question, the candidates were given data showing the results of a survey conducted at a local clinic about the methods patients used for preventing the spread of Human Immune Deficiency Virus (HIV) infection. Overall, candidates performed well in this question.

(a)   A majority of the candidates performed exceptionally well in this item. They were required to work out the total number of patients in this item. A few candidates lost a mark due to incorrect addition, getting answers such as 50, 64 and 132.

   Answer: 60 patients

(b)   In this item, the candidates were expected to name the method used by the least number of patients. This task was easy for a majority of the candidates. Some candidates failed to understand what was required of them. Consequently, they wrote "Methods of preventing HIV infection" as their response.

   Answer: Being faithful

(c)   This item was poorly done. The candidates were required to calculate the percentage of patients who use condoms. Most candidates were unable to calculate the required percentage. Some of the common incorrect responses included the following:

   - $\frac{24}{60} \times 360°$

   - $\frac{24}{100} \times 60$

   - $\frac{24}{100} \times 360°$

   Answer: 40%

(d)   The candidates were required to write in its simplest form the fraction of patients who avoided blood contact. A majority of the candidates were able to determine the correct fraction of the patients who avoid blood contact, $\frac{16}{60}$. However, most of the less achieving candidates failed to simplify the fraction as instructed.

   Answer: $\frac{4}{15}$