

EXAMINATIONS AND ASSESSMENT CHIEF DIRECTORATE

Home of Examinations and Assessment, Zone 6, Zwelitsha, 5600

REPUBLIC OF SOUTH AFRICA, Website: www.ecdoe.gov.za

2020 NSC CHIEF MARKER'S REPORT

REPORT 1: EVALUATION OF THE QUESTION PAPER AND MARKING GUIDELINE

SUBJECT	MATHEMATICAL LITERACY
PAPER	2
DURATION OF PAPER:	3 hours

1. STANDARD OF THE QUESTION PAPER

Was the paper of an appropriate standard for Grade 12? Substantiate using the following headings:

(a) Compliance to CAPS and Examination Guidelines

Question Paper fully complied with all requirements as outlined in the CAPS document as well as Examination Instructions. All the required topics were covered with various cognitive levels which were pitched at the different levels.

(b) Cognitive skills assessed

Was there an appropriate distribution of questions in terms of low, middle and higher order cognitive skills? (If No Please attach a weighting grid to show the distribution of the cognitive skills assessed). Were choice questions assessing similar cognitive skills?

Yes, there was an appropriate distribution of the different cognitive levels in the question paper, but within the various questions the distribution seemed to be unfair in the sense that some questions were more challenging than others. Example, Question 2 with a total mark of 38, has 17 marks for Level 3 and 16 marks for Level 4 with only 5 marks for Level 2; and also in Question 3, most of the marks were allocated to Level 3 (23 marks).

(c) Difficulty level of question paper

In general, do you think the paper was difficult, fair or easy? Please provide examples with reasons. Were choice questions of equal level of difficulty?

Question Paper was fair, but not difficult. It's rather sad that the Question Paper was challenging to candidates who cannot give attention to detail and candidates who do not read properly and read without comprehension.

(d) Coverage of prescribed Content and Skills

Does the paper cover the Content and Skills as prescribed in the CAPS? If your answer is no, indicate which Content and Skills were not adequately covered?

All the Content in terms of the Topics were covered with all the required skills. Nothing, in terms of the Topics and Skills were unfamiliar to the candidates.

2. FAIRNESS OF QUESTIONS

Were there any questions that were unfair? List them and substantiate why each one was unfair. Please included the total marks per question.

All questions were fair and accessible to all candidates.

- Were there any printing errors?

No printing errors appeared.

- Errors on the question papers

No errors were identified in the question paper.

- Unclear pictures

None. (pictures, images, graphs, etc.)

- Items outside the Curriculum

All the questions were inside the Curriculum and did not disadvantage any of the candidates.

3. LANGUAGE

Is the language used appropriate for Grade 12 learners? List questions that were linguistically complex and show how these questions can be re-phrased.

The language used in the question paper was clear and unambiguous. Information in terms of language was very simple.

4. USE OF APPROPRIATE TEXTS/ CONTEXT AND STIMULUS MATERIAL

- Were the texts/ contexts used appropriately? Substantiate.

All contexts were used appropriately, and it was user friendly.

- Were the visual texts clear? Substantiate.

All visual texts were clear with instructions that could be easily comprehended.

- Were the visual texts and their contexts accessible to all learners? Substantiate.

Although some questions were unfamiliar (which is a requirement for this question paper), all information given was clear and unambiguous.

- Was there any prejudice about race, religion, or gender found in the question paper/s?

None of the questions were prejudiced regarding race, religion, or gender.

5. LENGTH OF QUESTION PAPER

Were candidates able to complete the examination within the allocated time?

From marking it is evident that learners could finish the Question Paper in the allocated time, although some candidates left some questions unanswered.

6. MARKING GUIDELINE

Is the mark allocation for all questions appropriate? If no provide examples.

Does the marking guideline cater for all alternative responses?

If No, please list all correct responses which were not included in the memo. (indicate the question number and response)

Mark allocations for the various questions, were appropriate for the necessary information needed to solve the question.

All the different responses were listed in the marking guideline. Other alternative responses that came across during the marking process, were also accepted by the External Moderators.

OVERALL IMPRESSION OF THE PAPER IN TERMS OF LEARNER PERFORMANCE (BASED ON THE MARKING PROCESS AS INFORMED BY THE INTERNAL MODERATION AND THE MARKED SCRIPTS)

- Indicate how the candidates may have been advantaged/ disadvantaged taking into account the challenges of the 2020 academic year.

It came to light that some of the schools did not cover ALL the topics as prescribed in CAPS and Examination Guidelines for Mathematical Literacy. The reason for this is that in those schools there were NO educators due to comorbidities and NO replacements were done to alleviate the problem. Although Educator Assistants were appointed they were not actually educators, but their duty was only to monitor the work given by educators.

In other instances where candidates received the rolled-out tablets, virtual teaching in itself was also a challenge as some educators were also technologically challenged.

- Based on the reasons provided above, give a prediction of the learner performance. (How will the candidate results be as compared to 2019 examinations)

Results will be lower than that of 2019.

- Was there any evidence that candidates were not fully prepared for the examination as compared to previous years? Please provide examples or motivation for your response.

Some learners were not well prepared as they were not able to answer basic Mathematical Literacy concepts such as Range, Percentage increase, Mean, Median, etc. In some schools candidates performed good to excellent.

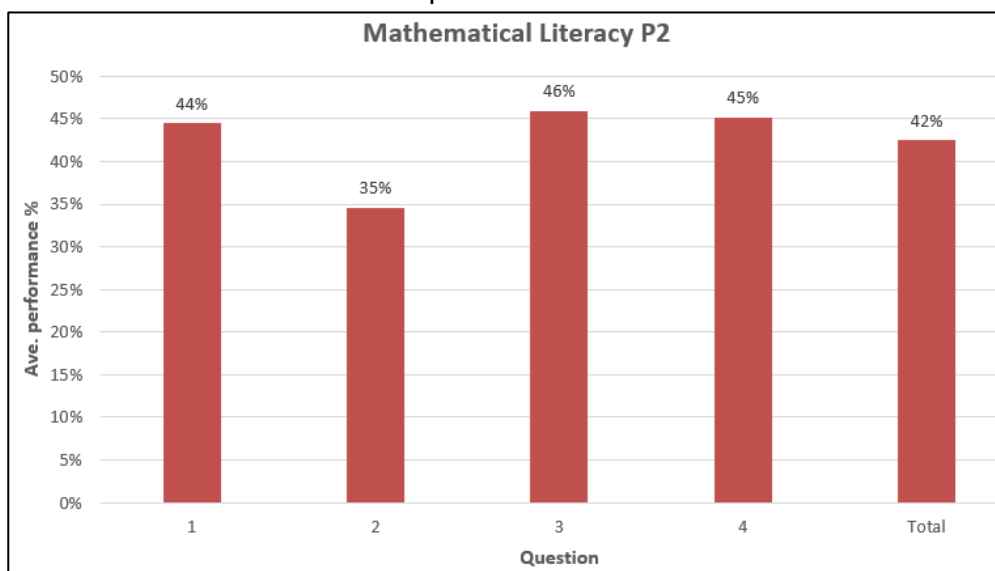
- Based on the candidate's performance, describe any challenges that may have resulted in such a performance.

The learners who did not pass Grade 11 and were progressed to Grade 12 will influence the results of Mathematical Literacy (lower than 2019), because the system of progressed learners who were given the opportunity for Multiple Examination Opportunity has been phased out.

REPORT 2: QUALITATIVE ANALYSIS OF LEARNER RESPONSES

SECTION 1: (General overview of Learner Performance in the question paper as a whole)

From the analysis of 100 scripts, the candidates performed from very bad to very good. The performance of 100 scripts gives an average mark of 63,73 with an average percentage of 42%. It is also evident that the best answered question was Question 3, followed by Question 4 and Question 1 and the worst answered question was Question 2.

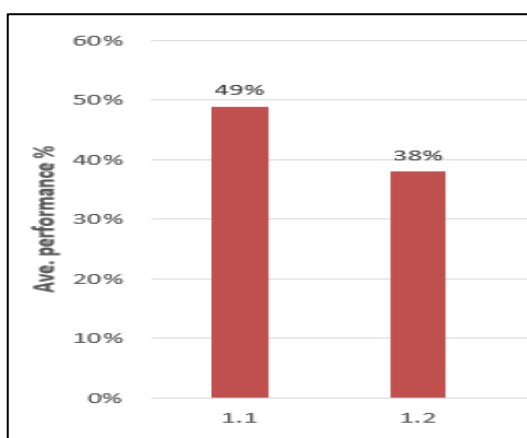


SECTION 2: Comment on candidates' performance in individual questions

(It is expected that a comment will be provided for each question on a separate sheet).

QUESTION 1

- (a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



From the above graph, it is evident that Question 1.1 (Data Handling and Probability) was the best answered question and Question 1.2 (Finances and Measurement) the worst answered question. Reasons for the performance detailed below. The reason for the poor performance of Q1.2 is the challenge that candidates have with measurement.

(b) **Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.**

Q1.1.1 Question was well answered. Only some candidates used Slovenia's information instead of Slovakia.

Q1.1.2 Although the question was well answered by most of the candidates, others did not know how to find the value of N, meaning they did not understand the concept of range. They used the lowest value within the 2014 column although the question stated "N represents the lowest number".

Q1.1.3 Most of the candidates could describe the trend correctly. Those who could not score full marks either did not indicate a decrease or the time frame. In most cases, it was the time frame that was not mentioned.

Q1.1.4 Question was very poorly answered with an average of 2,3 marks out of 6 as per the 100 scripts. Candidates could not use the correct formula which is Percentage increase =

$$\frac{\text{New value} - \text{Old value}}{\text{Old value}} \times 100\%$$

Some of them used the correct formula, but could not substitute correctly.

Q1.1.5 Candidates could not identify with the word "decline", therefore they lost the mark for the numerator.

Q1.1.6 Question was very poorly answered with an average of 2,3 marks out of 6 as per 100 scripts. Some candidates only wrote the cost per month for both countries as a ratio, while others used the number learners as a ratio. Further on, they could not simplify the ratio to a unit ratio in the correct order. Candidates could not do the conclusion, because they did not understand the expression in the question (more than 5:1).

Q1.2.1 Question was poorly answered. First, candidates could not calculate the profit. And if they could, they did not add the cost price of the marble to the profit.

Q1.2.2 Question was poorly answered with an average mark of 4,05 out of 9 as per 100 scripts. The only marks candidates could score was for Substitution and finding the radius. The radius that they found, was not converted and then they multiplied mm × cm. They did not calculate the volume of all marbles.

Q1.2.3 Question was extremely poorly answered. They did not know that they must add 0,5 to both sides of the existing diameter (increased diameter).

(c) Provide suggestions for improvement in relation to Teaching and Learning.

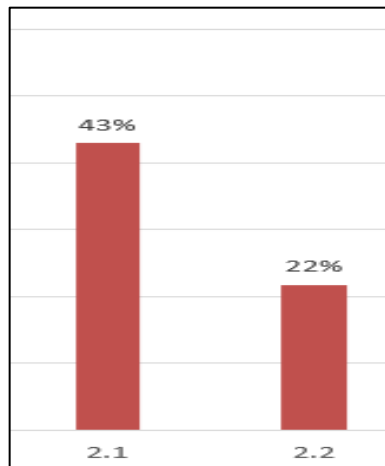
- Teaching the concept of range should be taught in different ways, especially where the subject of the formula changed to solve the unknown value in the given information.
- Teachers should drill the formula percentage increase = $\frac{\text{New value} - \text{Old value}}{\text{Old value}} \times 100\%$ and make candidates aware of the terminology that can be used that requires the same formula, for example percentage decrease and percentage change. Then teachers should focus on the way the order of the substitution should be done.
- The order of the ratio according to the question must be emphasised. They should also know which factor to use to simply to a unit ratio.
- Teachers should train candidates how to analyse given information to make it easier for them to answer the questions.
- Teach candidates that it is important to know that you cannot work with different units within an operation.
- Teachers should also inform candidates that there will be NO MARK for a conclusion without any calculations.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

- Teachers should use various resources and extended opportunities to ensure that candidates will be able to solve problems.
- Subject Advisors must conduct workshops on areas which are problematic.
- Teachers to exchange their methodologies to have a different approach to teaching.

QUESTION 2

(a) **General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?**



Overall Question 2 was answered very poorly. Question 2.1 (Finances and Measurement) was best answered, while Question 2.2 (Finances and Measurement) was the worst answered. Again Q2.2 was the challenging question on Measurement. If candidates could not do the measurement, they struggled with the finance part as it formed an integral part of the solution.

(b) **Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.**

Q2.1.1 Candidates could find the amount for CM and IM but did not total it.

Q2.1.2 Well answered question.

Q2.1.3 (a) Poorly answered. Although they could find the number of hours for 3 marks, they did not know what to do with the hours to get to the number of days.

Q2.1.3 (b) Extremely poorly answered. Could not find the day finished. Most of the learners did not even attempt this question.

Q2.1.3 (c) Poorly answered. Candidates could not give a reason why markers finished before the expected time.

Q2.1.4 Candidates could only manage to score 3 marks out of the possible 6 marks. Some candidates only calculated the transport and then concluded, and not adding the making and moderation. If they calculated the marking and moderation, they have only added the amounts and forgot to multiply the correct number of persons.

Q2.2.1 Poorly answered question. In most cases they could only find the area of the wood and did not continue. Others could not calculate the diameter; therefore, they could not find the area of the big circle. The cut-off area was very challenging for candidates to calculate.

Q2.2.2 Poorly answered. First, they could not convert the 38 mm to m and therefore could not find the correct volume. Another mistake was that they multiplied by 12 and could not see that the 12 semi-circles equate to 6 boards.

(c) Provide suggestions for improvement in relation to Teaching and Learning.

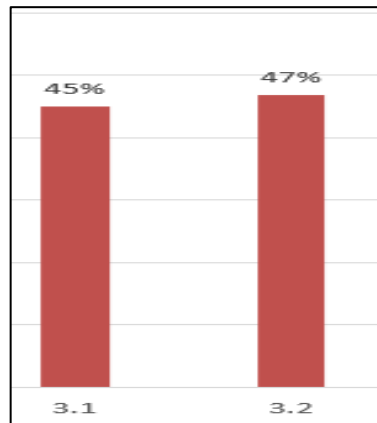
- Explain to learners what the question refers to if it states “total”.
- More in-depth teaching should be done in terms of converting time to days and vice versa.
- Educators should include reflecting and application questions (Level 4) during teaching.
- Teachers should train candidates how to analyse given information to make it easier for them to answer the questions.
- Conversion remains a challenge, therefore it is important that candidates are exposed to conversions on a regular basis.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

- As Measurement remains an area of concern, Subject Advisors should conduct workshops on this topic at a regular basis.
- Regular informal assessment for Measurement can also be an indicator to see what and how candidates understand the topic of Measurement.
- Use educators where pass rates in the subject is very high to share their methodologies.

QUESTION 3

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



Question 3.2 (Maps and plans and other representations) was better answered than Question 3.1 that tested Data Handling.

(b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Q3.1.1 Poorly answered. Candidates could answer that the data is discrete, but could not explain what discrete means.

Q3.1.2 Well answered question. Just that some candidates used the incorrect dataset.

Q3.1.3 Very poorly answered. Candidates only managed to add the 17 known values without adding the Y-value for correctness of mean concept. If they could do the latter, they could not change the subject of the formula to calculate the Y-value.

Q3.1.4 Candidates gave more than the required number of candidates, implying that they did not understand the word “differed”.

Q3.1.5 Poorly answered. Candidates could not find the quartiles for an even number of values which made it challenging to find the inter-quartile range correctly.

Q3.1.6 Poorly answered. They could easily identify the value of the denominator, but could not determine the number of candidates who did not get a distinction for Test 1. The most difficult for learners was to write the fraction in its simplest form.

Q3.1.7 Very well answered.

Q3.2.1 Very well answered.

Q3.2.2 Candidates general knowledge on road signs and road markers is non-existent.

Q3.2.3 Poorly answered. Could not get the direction, because they did not know that they have to orientate the page.

Q3.2.4 Poorly answered. They could easily measure between X and Y as well as the scale, but they could not use the scale concept.

Q3.2.5 (a) Well answered.

Q3.2.5 (b) Poorly answered. Candidates did not subtract the free parking from the total parking time. Also could not convert parts of an hour to minutes or minutes to hours. Were not able to give answer to the nearest pound (rounding to a whole number).

(c) Provide suggestions for improvement in relation to Teaching and Learning.

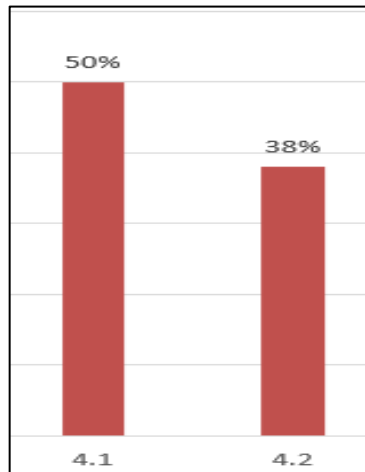
- Emphasize the meaning of discrete and continuous.
- Teach candidates different ways of mean applications, especially where the subject of the formula should be changed.
- Terms such as “differed”, “more than”, “less than”, total, etc. should be included in teaching.
- Emphasis on how to determine quartiles when there is an even or uneven number of values in the dataset. This will then assist candidates to find the interquartile range (IQR).
- Educators need to incorporate calculator (CASIO’s and SHARP’s) skills as this will help candidates to determine required answers such as simplified fractions, time, etc.
- Orientation of maps when north is not indicated at the top of the page.
- Application of scale should be emphasized.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

- Subject Advisors must conduct workshops on how to work with scale.
- Educators must work with different maps and different scales on maps to expose candidates to different scenarios.
- Subject Advisors must conduct workshops on how to work with calculators (CASIO’s and SHARP’s).

QUESTION 4

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



Question 4.1 (Maps and plans and other representations) was much better answered than Question 4.2 (Data and Finances).

(b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Q4.1.1 Some candidates did not understand the “odd numbered seats” and they could not count the number of seats correctly. Some did not adhere to the instruction of the question “as a percentage”.

Q4.1.2 Well answered question. Those who did not get full marks, wrote Fourth row instead of Row D.

Q4.1.3 Candidates could not express themselves as to the movement from D7 to A11.

Q4.1.4 Some of the candidates used the Friday and Saturday tariffs instead of Thursday and Sunday tariff. They also calculated the number of people incorrectly by just choosing some Sections and not all Sections. Most of the candidates could not find the original amount (using the 10% VAT) from what they have calculated.

Q4.1.5 Some candidates calculated the rand value by merely taking the value in Australian Dollar without first exchanging it to USA dollars than to Rand.

Q4.2.1 Some candidates could not determine the intervals on the vertical axis.

Q4.2.2 Identified incorrect months and values.

Q4.2.3 Poorly answered. Some candidates started with the incorrect month. Also did not recognise that is a compounded calculation.

(c) Provide suggestions for improvement in relation to Teaching and Learning.

- Educators should ensure that candidates know the difference between odd and even numbers.
- Emphasis should be placed on reading and interpreting the questions.
- Candidates should be asked to read questions and to explain what the question requires from them.
- Well answered question. Those who did not get full marks, wrote Fourth row instead of Row D.
- Movement on maps and plans should be worked with whenever the topic is taught.
- Teaching the original amount using a percentage should be exposed more to candidates.
- How to use exchange rates should be dealt with especially when two or more exchange rates are given.
- Expose candidates to graphs with different intervals on the vertical axis.
- Decimals in terms of big and small should be taught.
- Teachers must make candidates to be aware of how to select the correct time frame example in Q4.2.3 “end of October” refer starting with November.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

- Candidates must be taught to read with comprehension.
- More exercises on how to work with compound interest in different scenarios.
- Exchange ideas in term of teaching methodologies by various teachers.
- Subject Advisors to conduct more workshops in problem areas.
- Inflation to be emphasized, that is, compound increase; therefore, must be done with compound interest.



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE/ NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

NOVEMBER 2020

MARKS: 150

TIME: 3 hours

**This question paper consists of 10 pages,
1 answer sheet and an addendum with 4 annexures.**



* M L I T E 2 *



INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. 2.1 Use the ANNEXURES in the ADDENDUM to answer the following questions:
 - ANNEXURE A for QUESTION 2.1
 - ANNEXURE B for QUESTION 2.2
 - ANNEXURE C for QUESTION 3.2
 - ANNEXURE D for QUESTION 4.1
- 2.2 Answer QUESTION 4.2 on the attached ANSWER SHEET.
- 2.3 Write your centre number and examination number in the spaces on the ANSWER SHEET. Hand in the ANSWER SHEET with your ANSWER BOOK.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
6. Show ALL calculations clearly.
7. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
8. Indicate units of measurement, where applicable.
9. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.
10. Write neatly and legibly.



QUESTION 1

1.1

Lindiwe is interested in early childhood education. She researched the number of learners enrolled in early childhood education in selected countries.

TABLE 1 shows the number of learners that were enrolled in early childhood education in selected countries.

TABLE 1: NUMBER OF LEARNERS ENROLLED IN EARLY CHILDHOOD EDUCATION BY COUNTRY FROM 2014 TO 2016

COUNTRY	2014	2015	2016
Bulgaria	240 622	241 123	232 025
Denmark	300 278	291 683	284 655
Germany	2 970 436	3 014 046	3 090 459
Ireland	78 056	71 096	82 245
Greece	231 155	225 596	214 109
Cyprus	N	29 669	30 505
Slovenia	83 700	84 750	85 407
Serbia	189 304	192 005	199 790
Turkey	1 064 190	1 158 826	1 221 165
Slovakia	158 195	161 906	163 740
United Kingdom	1 596 803	2 035 420	2 248 162
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[Adapted from appso.eurostat.ec/Europa.eu]

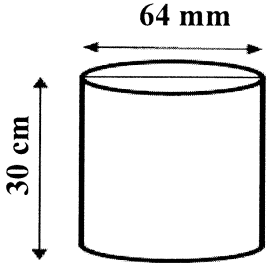

Use TABLE 1 to answer the questions that follow.

- 1.1.1 Determine the difference in the number of learners enrolled in Slovakia in 2015 and 2016. (3)
- 1.1.2 The range of the number of learners enrolled for 2014 is 2 947 664.
Calculate the value of N which represents the lowest number of learners enrolled for 2014. (3)
- 1.1.3 Describe the trend shown by the number of learners enrolled in Greece. (2)
- 1.1.4 Determine whether Turkey or the United Kingdom had the largest percentage increase from 2014 to 2016 regarding the number of learners enrolled in early childhood education. Show ALL your calculations. (6)
- 1.1.5 Determine (as a decimal fraction) the probability of randomly selecting a country in this table which shows a decline in enrolment from 2015 to 2016. (3)
- 1.1.6 The cost per child for early childhood education in Denmark in 2016 was €520,83 per month, while the comparative cost in Slovenia was €350 per month.
Lindiwe stated that the ratio of the total amount spent for all the learners enrolled in 2016 in Denmark compared to Slovenia is more than 5 : 1.
Verify her statement. (6)



1.2

Lindiwe bought two bags of dirty marbles from her neighbour at R30,00 per bag. Each bag contained 100 marbles. She intends to wash the marbles before selling them to her friends at school. She uses a cylindrical container to wash the marbles in, as shown in the diagram below.

DIAGRAM OF A CYLINDRICAL CONTAINER	BAG OF MARBLES
 <p>(Not drawn to scale)</p>	
Inner diameter = 64 mm Inner height = 30 cm	Volume of a single marble = 2 cm³

You may use the following formulae:

Volume of a cylinder = $3,142 \times \text{radius}^2 \times \text{height}$

Circumference of a circle = $3,142 \times \text{diameter}$

NOTE: 1 000 cm³ = 1 litre

Use the above information to answer the questions that follow.

1.2.1 Lindiwe made a profit of 120% from selling one bag of marbles.

Calculate, in rand, the selling price of EACH marble.

(4)

1.2.2 To wash the marbles, Lindiwe placed all the marbles from both bags into the cylindrical container. She then filled the container with water.

Lindiwe stated that more than half a litre of water was required to fill the cylindrical container with the marbles already inside it.

Verify, showing ALL calculations, whether the statement is valid.

(9)

1.2.3 Calculate, in cm, the outer circumference of the cylindrical container used to wash the marbles if the container is made of metal 0,5 mm thick.

(3)

[39]



QUESTION 2

2.1

After an examination, a total of 2 808 Mathematical Literacy scripts were marked at a particular marking centre.

TABLE 2 in ANNEXURE A shows data about the marking team, hours worked, tariffs and the amounts claimed for the marking and moderation of these scripts.

The marking process was planned as follows:

- The first day of marking was a Monday, starting at 14:00.
- Thereafter marking started at 08:00 and ended at 20:00 on a full marking day.
- Paid working hours excluded tea, lunch and supper breaks.

The marking team was paid a travel allowance of R3,26 per km for a total of 11 542 km travelled.

TABLE 3 below shows the times for actual marking and breaks for a full day.

TABLE 3: TIMES FOR ACTUAL MARKING AND BREAKS

START	TEA 1	LUNCH	TEA 2	SUPPER	FINISH
8:00	10:00–10:15	13:15–14:00	15:15–15:30	17:45–18:30	20:00

Use the above information and ANNEXURE A to answer the questions that follow.

2.1.1 Determine the total amount claimed by the chief moderator (CM) and the internal moderator (IM). (3)

2.1.2 Calculate the value of **A** in TABLE 2. (2)

2.1.3 Markers are allowed a maximum number of marking hours based on the following formula:

$$\text{Number of marking hours} = \frac{\text{Total number of scripts} \times 28}{\text{Number of markers} \times 60}$$

(a) Using the above formula, determine the expected time and the day on which the markers are likely to finish marking. (6)

(b) Determine the actual day and time when markers finished, according to the hours claimed, if marking started at 14:00 on Monday. (4)

(c) Give ONE possible reason why the markers finished before the expected time. (2)

2.1.4 A total amount of R400 000 was budgeted for the marking team at this particular marking centre.

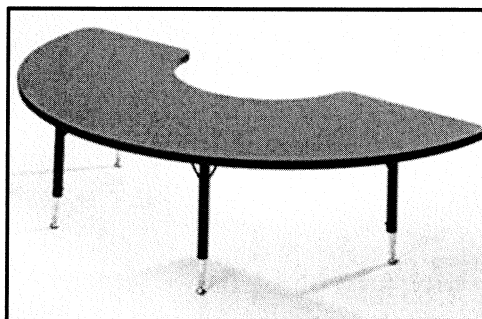
Verify whether this amount would be sufficient to pay the team for transport, marking and moderation of the scripts. (6)



2.2

The IM and CM were allocated tables with semicircular-shaped table tops, as shown in the picture below. Lumka, the centre manager, explained that two semicircular table tops are made from one square piece of wood.

TABLE WITH A SEMICIRCULAR TOP



The information on how the semicircular tops are cut from the square piece of wood is in ANNEXURE B. The dimensions of the wood are 2,7 m × 2,7 m with a thickness of 38 mm.

You may use the following formulae:

Area of a square = side × side

Area of a semicircle = $\frac{3,142 \times \text{radius}^2}{2}$

Volume of a rectangular prism = length × width × height

Use the information above and ANNEXURE B to answer the questions that follow.

2.2.1 Lumka stated that 2,01 m² of the wood is cut off when making two semicircular-shaped table tops from one piece of wood.

Verify, showing calculations, whether Lumka's statement is valid. (8)

2.2.2 The wood used is sold for R1 215 per cubic metre, excluding VAT at 15%.

Calculate the total cost, including VAT, of the wood to make 12 semicircular table tops.

(7)
[38]

QUESTION 3

3.1

A group of students at a nursing college wrote two tests for the same course. TABLE 4 shows the test scores, as percentages, of the students.

TABLE 4: TEST RESULTS, AS PERCENTAGES, OF THE STUDENTS

TEST	STUDENTS																	
	Paul	Oscar	Helen	Elsie	Fiona	Ian	Linda	Beauty	Charl	Rose	Kevin	Danie	Neo	Joan	Goitse	Mangi	Zena	Anita
1	89	90	87	90	83	83	94	73	88	Y	97	95	95	86	73	73	84	63
2	50	52	57	61	61	63	65	65	66	67	67	68	70	71	75	78	79	79

[Adapted from www.sanc.gov.za]

A student who scores 85% or more for a test is awarded a distinction.

Use the information in TABLE 4 to answer the questions that follow.

- 3.1.1 Explain, giving a reason, whether the above data is discrete or continuous. (3)
- 3.1.2 Determine the median score for Test 2. (3)
- 3.1.3 The mean score for Test 1 was 84%. Calculate the value of Y. (4)
- 3.1.4 Identify the candidates whose test scores in both tests differed by 30%. (3)
- 3.1.5 Calculate the value of the interquartile range for Test 2. (4)
- 3.1.6 Express, in simplified fractional form, the probability of randomly selecting a candidate who did not get a distinction for Test 1. (3)
- 3.1.7 Determine the modal test score for Test 1. (2)



3.2

Mangiwe, one of the students at the nursing college, visited the Ambleside town centre and stayed at the Queens Hotel for one week.

The Ambleside town centre map is given in ANNEXURE C.

Use ANNEXURE C to answer the questions that follow.

3.2.1 Identify the road in which parking is not allowed. (2)

3.2.2 Mangiwe travels from Keswick to Rydal Road.

Give ONE reason why she cannot turn right into Compston Road. (2)

3.2.3 Give the general direction of the Queens Hotel from the tennis courts. (2)

3.2.4 On the map, **X** is a point at the information centre and **Y** is a point at the University of Cumbria.

Use the scale on the map to calculate, in yards, the straight-line distance from **X** to **Y**. (4)

3.2.5 Mangiwe parked in Church Street from 12:00 to 15:25. A traffic officer who monitors the area issued her with a fine.

NOTE: A fine is the amount of money that someone has to pay if there is an offence.

(a) Write down for which offence the traffic officer issued her with a fine. (2)

(b) Mangiwe was fined £79,75 by the traffic officer.

Calculate, to the nearest £, the rate per hour for this fine. (5)
[39]

QUESTION 4

4.1

Keitumetse is a South African student who is on holiday in Australia. He went to the Lawrence Theatre to attend a musical concert.

ANNEXURE D shows the seating arrangements of the Lawrence Theatre.

TABLE 5 shows the single ticket prices for a visit to the theatre, in Australian dollar (inclusive of Australian VAT of 10%).

TABLE 5: COST OF A SINGLE TICKET IN AUSTRALIAN DOLLAR

FRIDAY AND SATURDAY		THURSDAY AND SUNDAY	
Adult	\$34,70	Adult	\$28,60
Student	\$30,50	Student	\$26,40
Children (14 and younger)	\$17,60	Children (14 and younger)	\$17,60

[Adapted from: <https://www.theatrelawrence.com>]

Use ANNEXURE D and the above information to answer the questions that follow.

4.1.1 Determine, as a percentage, the probability of randomly selecting an odd numbered seat for a disabled person from all the seats in the theatre. (3)

4.1.2 Identify the row and seat number for a person who is seated as follows: (2)

- In Section B
- Fourth row from the stage
- In the middle seat

4.1.3 Keitumetse is seated in D7 of Section A. He has to assist his friend in A11 after the show.

Describe the shortest possible path he would follow to reach A11. (4)

4.1.4 Sections A to C had the following number of people attending on a Thursday.

	ADULTS	STUDENT	CHILDREN (14 AND YOUNGER)
Section A	53	15	9
Section B	57	32	15
Section C	40	10	9

There was a claim that an amount of exactly \$5 796, excluding Australian VAT, was collected on that day.

Verify, with calculations, whether this claim is CORRECT. (8)

4.1.5 Keitumetse bought a ticket for a Friday show.

Calculate how much the ticket costs in South African rand.

Use the exchange rates below.

EXCHANGE RATE		
1 Australian dollar (AUD)	=	0,71 United States dollar (USD)
1 United States dollar (USD)	=	14,43 South African rand (ZAR)

(3)

4.2

While in Australia, Keitumetse studied the inflation rate.

The attached ANSWER SHEET shows graphs and data regarding the monthly inflation rate for 2017 and 2018 in Australia.

NOTE: The 2017 graph is incomplete; however, the 2018 graph is complete.

Use the information on the ANSWER SHEET to answer the questions that follow.

4.2.1 Complete the FIVE missing bars for 2017 on the ANSWER SHEET. (5)

4.2.2 Comparing 2017 with 2018, state the month in which the difference in the inflation rate was the greatest and calculate this difference. (3)

4.2.3 Keitumetse noted the trend in the inflation rate from the end of October 2018 to the end of December 2018.

He then stated that a car costing AUD156 831,36 at the end of October 2018 would cost AUD6 500 more in January 2019.

Verify, showing ALL calculations, whether his statement is CORRECT. (6)
[34]

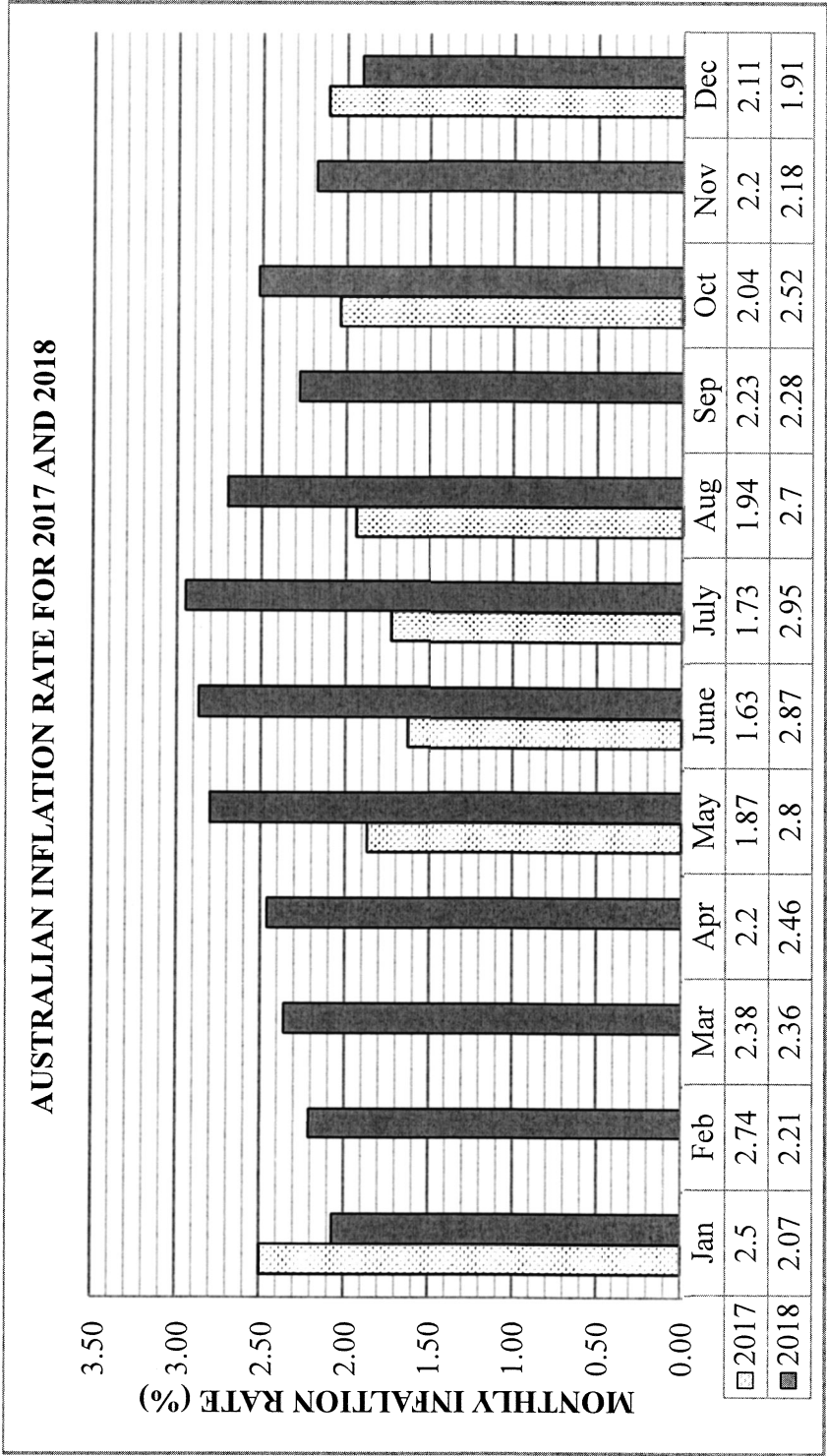
TOTAL: 150

ANSWER SHEET

QUESTION 4.2

CENTRE NUMBER:

EXAMINATION NUMBER:





basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE/ NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

ADDENDUM

NOVEMBER 2020

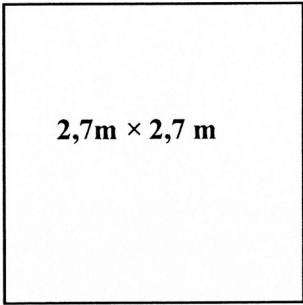
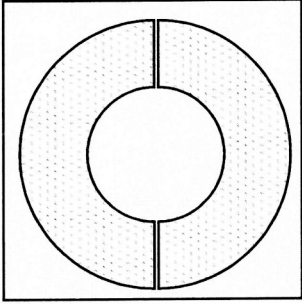
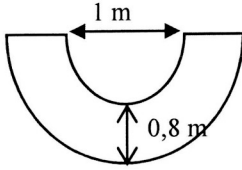
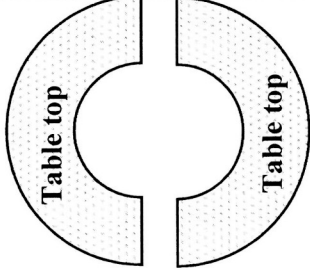
This addendum consists of 5 pages with 4 annexures.



ANNEXURE A**QUESTION 2.1****TABLE 2: MARKING TEAM, HOURS WORKED, TARIFFS AND AMOUNT CLAIMED FOR MARKING AND MODERATION**





	NUMBER OF PERSONS	HOURS WORKED PER PERSON	TARIFF (R/hr)	AMOUNT (R) CLAIMED PER PERSON
Chief moderator (CM)	1	79	244,35	...
Internal moderator (IM)	1	79	244,35	...
Senior moderator	5	A	211,75	13 763,75
Markers	23	52	195,50	10 166,00
TOTAL	30	-

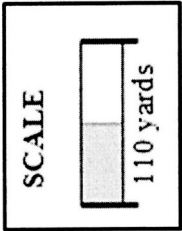
ANNEXURE B**QUESTION 2.2****TABLE WITH A SEMICIRCULAR TOP**

SQUARE BOARD WITH SIDE 2,7 m	TWO SEMICIRCULAR- SHAPED TOPS CUT FROM A SQUARE BOARD	DIMENSIONS OF THE TABLE TOP (NOT DRAWN TO SCALE)
 with a thickness of 38 mm		
		

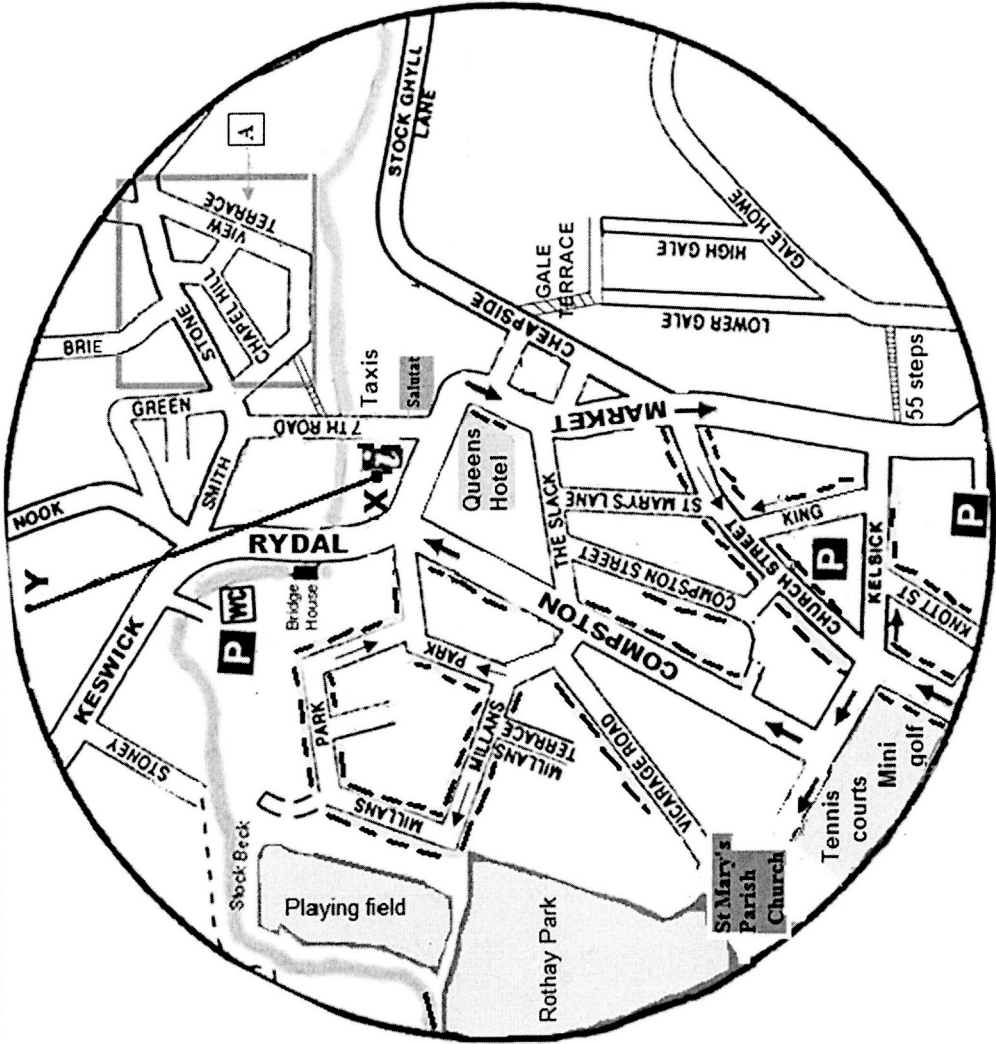
ANNEXURE C

QUESTION 3.2

KEY:	
	Information
	Parking in this area is not allowed
	Maximum 1 hour free parking before 5 pm
	Public car park



MAP OF AMBLESIDE TOWN CENTRE



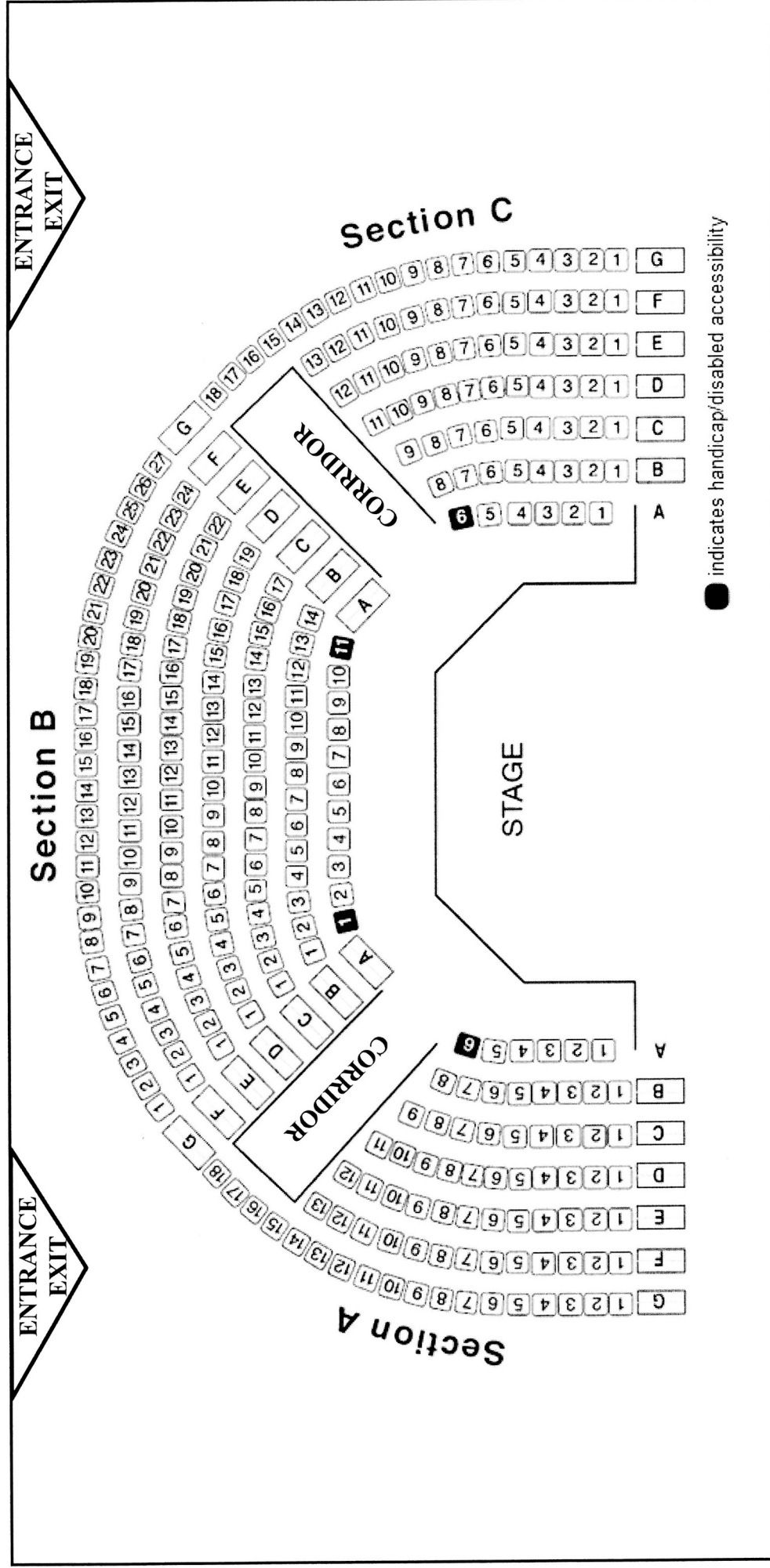
[Adapted from amblesideonline.co.uk]



ANNEXURE D

QUESTION 4.1

SEATING PLAN OF LAWRENCE THEATRE IN AUSTRALIA WITH A SEATING CAPACITY OF 288



[Source: wp.theatre.lawrence.com]





basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION
PRIVATE BAG 9406, PRETORIA 0001
2020-11-23
APPROVED MARKING GUIDELINE
PUBLIC EXAMINATION

SENIOR CERTIFICATE/SENIOR SERTIFIKAAT NATIONAL SENIOR CERTIFICATE/ NASIONALE SENIOR SERTIFIKAAT

GRADE/GRAAD 12

MATHEMATICAL LITERACY P2/ WISKUNDIGE GELETTERDHEID V2

NOVEMBER 2020

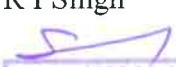
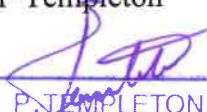
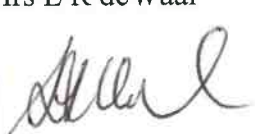
MARKING GUIDELINES/NASIENRIGLYNE

MARKS/PUNTE: 150

Symbol/Kode	Explanation/Verduideliking
M	Method/Metode
MA	Method with accuracy/Metode met akkuraatheid
CA	Consistent accuracy/Volgehoue akkuraatheid
A	Accuracy/Akkuraatheid
C	Conversion/Herleiding
S	Simplification/Vereenvoudiging
RT	Reading from a table/a graph/document/diagram/Lees vanaf tabel/grafiek/diagram
SF	Correct substitution in a formula/Korrekte vervanging in formule
O	Opinion/Explanation/Opinie/Verduideliking
P	Penalty, e.g. for no units, incorrect rounding off, etc./Penalisasie, bv. vir geen eenhede/verkeerde afronding, ens.
R	Rounding off/Afronding
NPR	No penalty for rounding/Geen penalisasie vir afronding nie
AO	Answer only/Slegs antwoord
MCA	Method with consistent accuracy/Metode met volgehoue akkuraatheid

These marking guidelines consist of 22 pages.

Hierdie nasienriglyne bestaan uit 22 bladsye.

APPROVED ON 23/11/2020	External Moderators		Internal Moderator
	Dr. R I Singh	Mr P Templeton	Mrs L R deWaal
	 UMALUSI EXT. MODERATOR R. I. SINGH	 P. TEMPLETON UMALUSI MODERATOR	

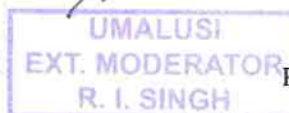
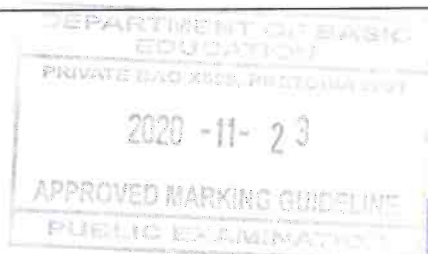
NOTE:

- If a candidate answers a question TWICE, mark only the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines provided at least one of the values is correct; however it stops at the second calculation error.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.

LET WEL:

- As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.
- As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.
- Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas op voorwaarde dat ten minste een van die waardes korrek is, dit hou op by die tweede berekeningsfout.
- Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.

QUESTION/VRAAG1 [39 MARKS/PUNTE]			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
1.1.1	Slovakia/Slowakye (diff. 2015 -16): $\begin{array}{r} \checkmark \text{RT} \\ 163\,740 - 161\,906 \quad \checkmark \text{MA} \\ \hline = 1\,834 \quad \checkmark \text{CA} \end{array}$	1 RT correct values 1MA method of subtraction 1CA answer (3)	D L2
1.1.2	Range = highest – lowest Omvang = hoogste – kleinste $\begin{array}{r} \checkmark \text{RT} \\ 2\,947\,664 = 2\,970\,436 - N \\ \hline N = 22\,772 \quad \checkmark \text{CA} \end{array}$	1M Range concept 1RT highest value 1CA simplification AO (3)	D L2
1.1.3	Number of learners enrolled decreased from 2014/2015/2016 OR The number of learners decreased every year <i>Getal ingeskrewe leerders in Griekeland neem vanaf 2014/2015/2016 af</i> <i>OF Die getal leerder neem jaarliks af</i>	1O decrease 1O time (2)	D L4



Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
1.1.4	<p>% increase(Turkey)/% verhoging (Turkye)</p> $= \frac{1\,221\,165 - 1\,064\,190}{1\,064\,190} \times 100\% \quad \checkmark M$ $= \frac{156\,975}{1\,064\,190} \times 100\%$ $= 14,75\% \quad \checkmark CA$ <p>% increase (United Kingdom) /% verhoging (Verenigde Koninkryk)</p> $= \frac{2\,248\,162 - 1\,596\,803}{1\,596\,803} \times 100\% \quad \checkmark MA$ $= 40,79\% \quad \checkmark CA$ <p>United Kingdom has the biggest percentage increase/Verenigde Koninkryk het die grootste persentasie verhoging. $\checkmark CA$</p> <p style="text-align: center;">OR/OF</p> <p>Turkey: $(1\,221\,165 \div 1\,064\,190) \times 100\% \quad \checkmark MA$</p> $= 114,75\%$ <p>% increase (Turkey) = $114,75\% - 100\% \quad \checkmark M$</p> $= 14,75\% \quad \checkmark CA$ <p>(United Kingdom): $(2\,248\,162 \div 1\,596\,803) \times 100\% \quad \checkmark MA$</p> $= 140,79\%$ <p>% increase United Kingdom = $140,79\% - 100\%$</p> $= 40,79\% \quad \checkmark CA$ <p>United Kingdom has the biggest percentage increase/Verenigde Koninkryk het die grootste persentasie verhoging. $\checkmark CA$</p>	<p>1M using correct formula 1MA subtracting correct values</p> <p>1CA simplification</p> <p>1MA subtracting correct values</p> <p>1CA simplification as a percentage 1CA county</p> <p style="text-align: center;">OR/OF</p> <p>1MA subtracting correct values</p> <p>1M using correct formula 1CA simplification</p> <p>1MA subtracting correct values</p> <p>1CA simplification as a percentage 1CA county NPR</p> <p style="text-align: right;">(6)</p>	D L3
1.1.5	<p>Probability (decline 2015-2016) /Waarskynlikheid</p> $= \frac{3}{11} \quad \checkmark A$ $\approx 0,27 \quad \checkmark CA$	<p>1A numerator 1A denominator</p> <p>1CA as decimal NPR</p> <p style="text-align: right;">(3)</p>	P L3

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
1.1.6	<p>Denmark cost/Denemark koste $= €520,83 \times 284\,655$ ✓RT $= €148\,256\,863,70$ ✓A</p> <p>Slovenia cost /Slovenië koste $= €350 \times 85\,407 = €29\,892\,450$ ✓A</p> <p>$€148\,256\,863,70 : €29\,892\,450$ $4,959... : 1$ ✓CA</p> <p>✓O The statement is NOT VALID/Bewering is NIE GELDIG NIE</p> <p>OR/OF</p> <p>Accept per year or per month /Aanvaar per jaar of per maand</p> <p>2016 Denmark : 2016 Slovenia $284\,655 \times 520,83 \times 12 : 85\,407 \times 350 \times 12$ $1\,779\,082\,364 : 358\,709\,400$ $4,959... : 1$ ✓CA</p> <p>✓O The statement is NOT VALID/Bewering is NIE GELDIG NIE</p> <p>OR/OF</p> <p>Denmark: $€520,83 \times 12 = €6249,96$ per year /per jaar $€6\,249,96 \times 284\,655$ ✓RT $= €1\,779\,082\,364$ ✓A</p> <p>Slovenia : $€350 \times 12 = €4\,200$ per year /per jaar $€4\,200 \times 85\,407$ $= €358\,709\,400$ ✓RT</p> <p>Denmark: Slovenia $€1\,779\,082\,364 : €358\,709\,400$ $(€1\,779\,082\,364 \div €358\,709\,400) : (€358\,709\,400 \div €358\,709\,400)$ $= 4,9596 : 1$ ✓CA</p> <p>The statement is NOT VALID ✓O</p>	<p>1RT correct values 1A cost</p> <p>1RT correct values 1A cost</p> <p>1CA simplified ratio in correct order</p> <p>1O verification</p> <p>OR/OF</p> <p>1RT Denmark values 1RT Slovenia values 1A cost 1A cost 1CA simplified ratio in correct order</p> <p>1O verification</p> <p>OR/OF</p> <p>1RT correct values</p> <p>1A cost</p> <p>1RT correct values</p> <p>1A cost</p> <p>1CA simplified ratio in correct order</p> <p>1O verification NPR</p>	<p>D L4</p>

(6)

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EDUCATION
PRIVATE BAG 2000, PRETORIA 0001

2020 -11- 23

APPROVED MARKING GUIDELINE

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P. TEMPLETON

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UMALUSI
EXT. MODERATOR

Please turn over/Blaai om asseblief

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
1.2.1	<p>Profit/Wins = R30 × 120% = R36 ✓MA</p> <p>Profit per marble / Wins per albaster = $\frac{R36}{100} = R0,36$ ✓CA</p> <p>Cost price per marble/Kosprys per albaster = $\frac{R30}{100} = R0,30$ ✓A</p> <p>Selling price/Verkoopprys = R0,36 + R0,30 = R0,66 per marble/albaster ✓MCA</p> <p style="text-align: center;">OR/OF</p> <p>R30 per 100 marbles/albasters is 100% ✓MA</p> <p>Profit on 100 marbles to yield 120% per pack</p> <p>Wins op 100 albasters om 120% per pakte gee</p> <p>= $\frac{R30 \times 120\%}{100\%}$</p> <p>= R36 per pack</p> <p>Price of selling 1 marble is/Verkoopprys per albaster is:</p> <p>$\frac{R30 + R36}{100}$ ✓MCA ✓M</p> <p>= R0,66 ✓CA</p> <p style="text-align: center;">OR/OF</p> <p>Selling price/verkoopprys = R30 × 220% = R66 ✓MA ✓MCA</p> <p>Price per marble/Prys per albaster</p> <p>= $\frac{R66}{100} = R0,66$ ✓M ✓CA</p> <p style="text-align: center;">OR/OF</p> <p>Price per marble/Prys per albaster = $\frac{30}{100} = R0,30$ ✓MA</p> <p>Selling price/verkoopprys = 0,3 × 2,2 ✓M ✓MCA</p> <p>= R0,66 ✓CA</p> <p style="text-align: center;">OR/OF</p> <p>Selling price /verkoopprys = 30 × 2,2 = R66 ✓MA ✓MCA</p> <p>Price per marble/Prys per albaster = $\frac{66}{100}$ ✓M</p> <p>= R0,66 ✓CA</p>	<p>1MA calculating profit</p> <p>1CA profit per marble</p> <p>1A price per marble</p> <p>1MCA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1MA calculating profit</p> <p>1MCA cost plus profit</p> <p>1M dividing by 100</p> <p>1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1MA calculating % increase</p> <p>1MCA selling price</p> <p>1M dividing by 100</p> <p>1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1MA dividing by 100</p> <p>1M calculating % increase</p> <p>1MCA selling price</p> <p>1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1MA calculating % increase</p> <p>1MCA selling price</p> <p>1M dividing by 100</p> <p>1CA simplification</p> <p>NPR</p>	<p>F L3</p> <p style="text-align: right;">(4)</p>

DEPARTMENT OF BASIC
EDUCATION
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2020 -11- 23

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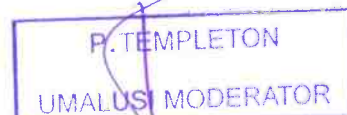
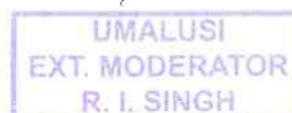
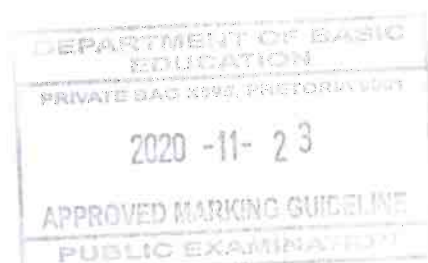
P. TEMPLETON

UMALUSI MODERATOR

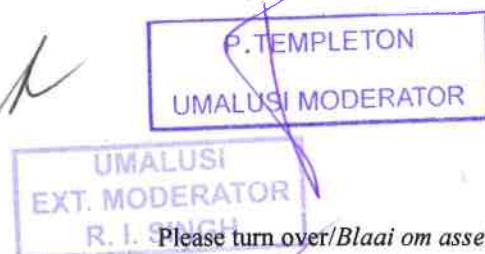
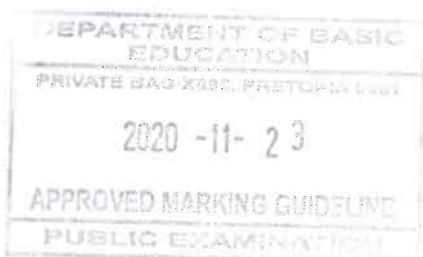
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EXT. MODERATOR
R. I. SINGH

Please turn over/Blaai om asseblief

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
1.2.2	<p>Radius container/houer = $\frac{6,4}{2}$ ✓C = 3,2 cm ✓MCA</p> <p>Volume of a cylinder/ <i>Volume van 'n silinder</i> = $\pi \times \text{radius}^2 \times \text{height}$ ✓SF = $3,142 \times (3,2 \text{ cm})^2 \times 30 \text{ cm}$ = $965,2224 \text{ cm}^3$ ✓CA</p> <p>Volume of 2 bags of marbles/<i>volume van 2 sakke albasters</i> = $2 \times 2 \text{ cm}^3 \times 100$ ✓MA = 400 cm^3 ✓CA</p> <p>Vol. Water to fill container/<i>Vol. water om houer te vul</i> = $965,2224 \text{ cm}^3 - 400 \text{ cm}^3$ ✓MCA = $565,2224 \text{ cm}^3$ ✓CA $\frac{1}{2} \ell = 500 \text{ cm}^3$</p> <p>Statement is valid/<i>Bewering is geldig</i> ✓O</p> <p>OR/OF</p> <p>Radius of container/houer = $\frac{6,4}{2}$ ✓C = 3,2 cm ✓MCA</p> <p>Volume of a cylinder/ <i>Volume van 'n silinder</i> ✓SF = $\pi \times \text{radius}^2 \times \text{height} = 3,142 \times 3,2 \text{ cm} \times 3,2 \text{ cm} \times 30 \text{ cm}$ = $965,2224 \text{ cm}^3$ OR/OF 0,9652224 litres ✓CA</p> <p>Volume of 2 bags of marbles/<i>volume van 2 sakke albasters</i> = $2 \times 2 \text{ cm}^3 \times 100$ ✓MA = 400 cm^3 OR/OF 0,4 litres ✓CA</p> <p>Vol. Water to fill container/<i>Vol. water om houer te vul</i> = $965,2224 \text{ cm}^3 - 400 \text{ cm}^3$ ✓MCA = $565,2224 \text{ cm}^3$ ✓CA</p> <p>OR/OF = $0,9652224 \ell - 0,4 \ell = 0,5652224 \ell$ More than 0,5 ℓ VALID / <i>meer as 0,5ℓ GELDIG</i> ✓O</p>	<p>1C conversion</p> <p>1MCA finding the radius</p> <p>1SF both radius and height</p> <p>1CA simplification</p> <p>1MA Vol. of total marbles</p> <p>1CA simplification</p> <p>1MCA subtraction</p> <p>1CA simplification</p> <p>1O conclusion</p> <p>OR/OF</p> <p>1C conversion</p> <p>1MCA finding the radius</p> <p>1SF both radius and height</p> <p>1CA simplification</p> <p>1MA Vol. of total marbles</p> <p>1CA simplification</p> <p>1MCA subtraction of volumes</p> <p>1CA simplification</p> <p>1O conclusion</p>	M L4



Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
	<p style="text-align: center;">OR/OF</p> <p>Radius of container/houer = $\frac{6,4}{2} = 3,2 \text{ cm}$ ✓C ✓MCA</p> <p>Volume of a cylinder/ <i>Volume van 'n silinder</i> $= \pi \times \text{radius}^2 \times \text{height}$ $= 3,142 \times 3,2 \text{ cm} \times 3,2 \text{ cm} \times 30 \text{ cm}$ ✓SF $= 965,2224 \text{ cm}^3$ OR/ OF 0,9652224 litres ✓CA</p> <p>Volume of 2 bags of marbles / <i>volume van 2 sakke albasters</i> $= 2 \times 2 \text{ cm}^3 \times 100$ ✓MA ✓CA $= 400 \text{ cm}^3$ OR/OF 0,4 litres</p> <p>✓MCA ✓CA $400 \text{ cm}^3 + 500 \text{ cm}^3 = 900 \text{ cm}^3$</p> <p>This is less than $965,2224 \text{ cm}^3$ of the cylinder, VALID ✓O <i>Minder as $965,2224 \text{ cm}^3$ van die silinder, GELDIG</i></p>	<p style="text-align: center;">OR/OF</p> <p>1C conversion 1MCA finding the radius</p> <p>1SF both radius and height 1CA simplification</p> <p>1MA Vol. of total marbles 1CA simplification</p> <p>1MCA addition 1CA simplification</p> <p>1O conclusion</p> <p style="text-align: right;">(9)</p>	
1.2.3	<p>Outer diameter/<i>Buite middellyn</i> $= 64 \text{ mm} + 2 \times 0,5 \text{ mm} = 65 \text{ mm}$ ✓MA</p> <p>Circumference = $\pi \times \text{diameter}$ / <i>Omtrek = $\pi \times \text{middellyn}$</i> $= 3,142 \times (6,5) \text{ cm}$ ✓SF $= 20,423 \text{ cm}$ ✓CA</p> <p style="text-align: center;">OR/OF</p> <p>Radius = $32 \text{ mm} + 0,5 \text{ mm} = 32,5 \text{ mm}$ ✓MA $= 3,25 \text{ cm}$</p> <p>Circumference/<i>omtrek</i> = $2 \times \pi \times \text{radius}$ ✓SF $= 2 \times 3,142 \times 3,25 \text{ cm}$ ✓CA $= 20,423 \text{ cm}$</p>	<p>1MA increased diameter</p> <p>1SF substitution 1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1MA increased radius</p> <p>1SF substitution 1CA simplification NPR</p> <p style="text-align: right;">(3)</p>	M L2
		[39]	



QUESTION/VRAAG 2 [38 MARKS/PUNTE]

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
2.1.1	$\text{Total/Totaal} = 2 \times (79 \times R244,35) \quad \checkmark A$ $= R38\,607,30 \quad \checkmark CA$ <p style="text-align: center;">OR/OF</p> <p>Amount claimed per person/Bedrag geëis per persoon:</p> $CM/HM = 79 \times R244,35 = R19\,303,65 \quad \checkmark A$ $IM = 79 \times R244,35 = R19\,303,65 \quad \checkmark A$ $\text{Total/Totaal} = R19\,303,65 + R19\,303,65$ $= R38\,607,30 \quad \checkmark CA$	1A number of personnel 1A tariff 1CA simplification <p style="text-align: center;">OR/OF</p> 1A CM amount 1A IM amount 1CA simplification (3)	F L2
2.1.2	<p>A (Hours worked by SM)/A(Ure gewerk deur SM)</p> $= \frac{R13\,763,75}{R211,75/h} \quad \checkmark MA$ $= 65 \text{ hours/ure} \quad \checkmark CA$	1MA numerator and denominator 1CA simplification (2)	M L2
2.1.3 (a)	<p>Number of marking hours/Getal nasien ure</p> $= \frac{2\,808 \times 28}{23 \times 60} \quad \checkmark SF$ $= 56,97391303 \text{ hours/ure} \approx 57 \text{ hours/ure} \quad \checkmark CA$ <p>1st day (Monday/Maandag): 14:00 to 20:00 = 5 hours/ure $\checkmark A$</p> <p>Tuesday to Saturday/Dinsdag tot Saterdag: 50 hours/ure</p> <p>Sunday/Sondag = 2 hours/ure $\checkmark A$</p> $\text{Total/Totaal } 5 + 50 + 2 = 57 \text{ hrs./ure}$ <p style="text-align: center;">$\checkmark CA$</p> <p>Finish at 10:00 on Sunday. Eindig Sondag om 10:00</p> <p style="text-align: center;">OR/OF</p> <p>Number of marking hours/ Getal nasien ure</p> $= \frac{2\,808 \times 28}{23 \times 60} \quad \checkmark SF$ $= 56,97391303 \text{ hours} \approx 57 \text{ hours} \quad \checkmark CA$ <p>Actual marking time per day/ Werklike merkyd per dag = 12 hrs – 2 hrs = 10 hrs</p> <p>Start/Begin Mon + Tue + Wed + Thu + Fri + Sat + Sun $\checkmark A$ = 5h + 10h + 10h + 10h + 10h + 10h + 2h = 57 hours/ure</p> <p>Sunday/Sondag = 08:00 + 2h = 10:00 $\checkmark CA$</p>	1SF correct numerator 1SF correct denominator 1CA simplification/hours 1A hours of 1 st day 1A hours of complete days to last day 1CA day & time <p style="text-align: center;">OR/OF</p> 1SF correct numerator 1SF correct denominator 1CA simplification/hours 1A hours of 1 st day 1A hours of complete days to last day 1CA day and time	M L3

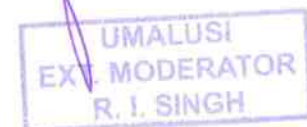
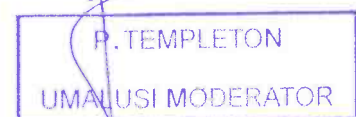
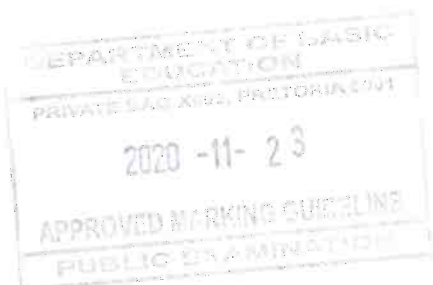
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
	<p style="text-align: center;">OR/OF</p> <p>Number of marking hours/ <i>Getal nasien ure</i></p> $= \frac{2\,808 \times 28}{23 \times 60} \quad \checkmark \text{SF}$ $= 56,97391303 \text{ hours/ure} \approx 57 \text{ hours/ure} \quad \checkmark \text{CA}$ <p>57 hours: Monday/<i>Maandag</i> = 5hrs/<i>uur</i> $\checkmark \text{A}$</p> <p>Rest of the days/<i>Res van die dae</i> = 57hrs – 5 hrs</p> $= 52 \text{ hrs/uur}$ <p>Full marking days/<i>Vol merk dae</i> = $\frac{52}{10}$</p> $= 5,2 \text{ days/dae}$ <p>Therefore/<i>dus</i> 5 days + 0,2 days</p> <p>5 days Tuesday to Saturday / <i>5 dae is Dinsdag tot Saterdag</i></p> <p>0,2 days/<i>dae</i> $\times 10$ = 2hrs for Sunday/<i>uur vir Sondag</i> $\checkmark \text{A}$</p> <p>Ends / <i>eindig</i> Sunday/<i>Sondag</i> 10:00 $\checkmark \text{CA}$</p> <p style="text-align: center;">OR/OF</p> <p>Number of marking hours/ <i>Getal nasien ure</i></p> $= \frac{2\,808 \times 28}{23 \times 60} \quad \checkmark \text{SF}$ $\approx 57 \text{ hours/uur} \quad \checkmark \text{CA}$ <p>14:00 to 14:00 = 10 working hours /<i>werks ure</i> $\checkmark \text{A}$</p> <p>Monday 14:00 to Saturday 14:00 = 50 hours</p> <p><i>Maandag 14:00 tot Saterdag 14:00 = 50 uur</i></p> <p>Saturday 14:00 to Sunday 10:00 = 7 hours</p> <p><i>Saterdag 14:00 tot Sondag 10:00 = 7 uur</i> $\checkmark \text{A}$</p> <p>Finish at 10:00 on Sunday $\checkmark \text{CA}$</p> <p><i>Eindig Sondag 10:00</i></p>	<p style="text-align: center;">OR/OF</p> <p>1SF correct numerator</p> <p>1SF correct denominator</p> <p>1CA simplification/hours</p> <p>1A hours of 1st day</p> <p>1A hours of complete days to last day</p> <p>1CA day & time</p> <p style="text-align: center;">OR/OF</p> <p>1SF correct numerator</p> <p>1SF correct denominator</p> <p>1CA simplification/hours</p> <p>1A full day's work</p> <p>1A hours of complete days to last day</p> <p>1CA day and time</p> <p style="text-align: right;">(6)</p> <p>[Accept Tues 10:00]</p>	



Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
2.1.3 (b)	<p>✓ MCA 57 – 52 hours/ure = 5 working hours earlier /werksure vroeër</p> <p>✓ A 2 hrs of Sunday and last 3 hrs of Saturday not worked 2 uur van Sondag en die laaste 3 ure van Saterdag nie gewerk</p> <p>20:00 – 16:00 = 3 hrs excluding supper/uur sonder aandete</p> <p>✓ CA ✓ CA Finish at 16:15 on Saturday./Eindig Saterdag om 16:15 (Including tea break/tee pouse ingesluit)</p> <p>OR/OF</p> <p>✓ A ✓ MA 52 hours claimed = 5 (Monday) + 40 (Tue to Fri) + 7 (Sat) 52 ure geëis = 5 (Maandag) + 40 (Di tot Vry) + 7 (Sat)</p> <p>Finish Saturday/Eindig Saterdag ✓ CA 8:00 + 7 hours + 15 min (tea 1) + 45 min (lunch) + 15 min (tea 2) = 16:15 ✓ CA [also accept 16:00 since they are not paid for tea time] [aanvaar ook 16:00 aangesien hulle nie vir teepouse betaal word nie]</p>	<p>1 MCA hrs less from marking [CA from 2.1.3 (a)]</p> <p>1 A separation of hrs</p> <p>1 CA time 1 CA day</p> <p>OR/OF</p> <p>1 MA breaking up the time 1 A the hours per day</p> <p>1 CA day 1 CA time AO</p>	M L3
2.1.3 (c)	<p>✓✓ O Some candidates omitted some questions or sub-sections. Sommige kandidate laat vrae of onderafdelings uit.</p> <p>OR/OF</p> <p>✓✓ O Some candidates wrote short answers (skipping other steps or lines or sentences). Sommige kandidate skryf verkorte antwoorde (laat stappe uit)</p> <p>OR/OF</p> <p>Responses were very clear to follow. ✓✓ O Antwoorde was baie maklik om te volg</p> <p>OR/OF</p> <p>✓✓ O Some markers mark fast. Sommige nasieners kon vinnig nasien.</p> <p>OR/OF</p> <p>✓✓ O Markers took shorter breaks Merkers het korter pouses geneem</p>	<p>20 reason</p> <p>DEPARTMENT OF BASIC EDUCATION EDUCATION PRIVATE BAG 4856, PRETORIA 0001 2020-11-23 APPROVED MARKING GUIDELINE PUBLIC EXAMINATION</p> <p>UMALUSI EXT. MODERATOR R. I. SINGH (2)</p>	M L4

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
2.1.4	<p>Transport/Vervoer = 11 542 km × R3,26 / km ✓ MA</p> <p>= R 37 626,92 ✓ CA</p> <p>Marking/Nasien:</p> <p>= 2 × 79 × R244,35 + 5 × 65 × R211,75 + 23 × 52 × R195,50</p> <p>= 2 × R19 303,65 + 5 × R13 763,75 + 23 × R10 166 ✓ MCA</p> <p>= R38 607,3 + R68 818,75 + R233 818</p> <p>= R341 244,05 ✓ CA</p> <p>Total/Totaal = R341 244,05 + R 37 626,92</p> <p>= R378 870, 97. ✓ CA</p> <p>R400 000 budget will be enough/begroting is genoegsaam. ✓ O</p>	<p>1MA calculation</p> <p>1CA amount</p> <p>1MCA multiply correct number of persons by amount claimed</p> <p>1CA simplification</p> <p>1CA total</p> <p>1O conclusion</p> <p>(6)</p>	F L4
2.2.1	<p>Diameter = 1 m + 0,8 m + 0,8 m = 2,6 m ✓ A</p> <p>Area of big circle/Oppervlakte van grootsirkel</p> <p>= 3,142 × $\left(\frac{2,6 \text{ m}}{2}\right)^2$ ✓ SF</p> <p>= 5,30998 m² ✓ CA</p> <p>Area of the small circle/kleinsirkel = 3,142 × (0,5 m)²</p> <p>= 0,7855 m² ✓ MA</p> <p>Area of the wood/Oppervlakte van hout = 2,7 m × 2,7 m</p> <p>= 7,29 m² ✓ A</p> <p>Cut-off/Afgesny = 7,29 m² – 5,30998 m² + 0,7855 m² ✓ MCA</p> <p>= 1,98002 m² + 0,7855 m²</p> <p>≈ 2,77 m² ✓ CA</p> <p>Statement is NOT valid/Bewering is NIE geldig NIE ✓ O</p> <p>OR/OF</p> <p>Cut-off wood (in m²) /Afgesnyde hout (in m²)</p> <p>= Area_(square) – [Area_(big circle) – Area_(small circle)]</p> <p>= 2,7 × 2,7 – [3,142 (0,8 + 0,5)² – 3,142 (0,5)²]</p> <p>✓ A ✓ CA ✓ MA</p> <p>= 7,29 – [5,30998 – 0,7855]</p> <p>= 7,29 – 4,52448 ✓ M</p> <p>= 2,76552. ✓ CA</p> <p>Which is more than 2,01. Hence, the statement is not valid ✓ O</p> <p>Dit is meer as die 2,01, gevolglik is die bewering nie geldig nie.</p>	<p>1A diameter</p> <p>1SF circle formula</p> <p>1CA area big circle</p> <p>1MA area small circle</p> <p>1A area of the wood</p> <p>1MCA subtracting total circles from square area wood</p> <p>1CA area</p> <p>1O conclusion</p> <p>OR/OF</p> <p>1A radius big circle</p> <p>1SF circle formula</p> <p>1CA area big circle</p> <p>1MA area small circle</p> <p>1A area of the wood</p> <p>1M subtracting total circles from square area wood</p> <p>1CA area</p> <p>1O conclusion</p>	M L4

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
	<p style="text-align: center;">OR/OF</p> <p>Area of semi-circle = $\frac{1}{2} \pi \times r^2$ ✓A</p> <p>Outer circle/<i>Buite sirkel</i> = $\frac{1}{2} \times 3,142 \times (1,3 \text{ m})^2$ ✓SF</p> <p style="text-align: right;">= 2,65499m² ✓CA</p> <p>Inner circle/<i>Binne sirkel</i> = $\frac{1}{2} \times 3,142 \times (0,5 \text{ m})^2$</p> <p style="text-align: right;">= 0,39275 m² ✓MA</p> <p>Desk/<i>tafel</i> = 2,65488m² – 0,39275m²</p> <p style="text-align: right;">= 2,26224m² ✓CA</p> <p>Total area/<i>Totale oppervlak</i> = 2,26224 m² × 2</p> <p style="text-align: right;">= 4,52448 m² ✓MCA</p> <p>Cut-off Area/<i>Afsny hout</i> = 7,29 m² – 4,52448 m²</p> <p style="text-align: right;">= 2,7552 m² ✓CA</p> <p>Statement not valid /<i>Bewering is nie GELDIG nie</i> ✓O</p> <p style="text-align: center;">OR/OF</p> <p>Area of big semi-circle /<i>Oppervlakte van groot halfsirkel</i></p> <p style="text-align: right;">= $3,142 \times 1,3^2 \div 2 = 2,65499 \text{ m}^2$ ✓A ✓SF ✓CA</p> <p>Area of small semi-circle /<i>Oppervlakte van klein halfsirkel</i></p> <p style="text-align: right;">= $3,142 \times 0,5^2 \div 2 = 0,3927 \text{ m}^2$ ✓MA</p> <p>One semi-circular top/ <i>Een halfsirkel bo-kant</i></p> <p style="text-align: right;">= 2,65499 – 0,3927 = 2,26224 m²</p> <p>Area of two semi-circular tops/<i>Oppervlakte van 2 halfsirkels</i></p> <p style="text-align: right;">= 2,26224 × 2 = 4,52448 m² ✓MCA</p> <p>Square Board/<i>Vierkantige hout</i> = 2,7 × 2,7 = 7,29 m² ✓A</p> <p>Cut-off /<i>Afsny</i> = 7,29 m² – 4,52448 m² ≈ 2,77 m² ✓CA</p> <p>Statement not valid/<i>Bewering is nie GELDIG nie</i> ✓O</p>	<p style="text-align: center;">OR/OF</p> <p>1A diameter/ radius</p> <p>1SF circle formula</p> <p>1CA area big circle</p> <p>1MA area small circle</p> <p>1CA area of the wood</p> <p>1MCA total circles area</p> <p>1CA area</p> <p>1O conclusion</p> <p style="text-align: center;">OR/OF</p> <p>1A diameter/ radius</p> <p>1SF circle formula</p> <p>1CA area big circle</p> <p>1MA area small circle</p> <p>1MCA total circles area</p> <p>1A area of the wood</p> <p>1CA area</p> <p>1O conclusion</p>	(8)

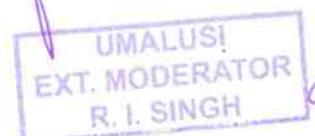
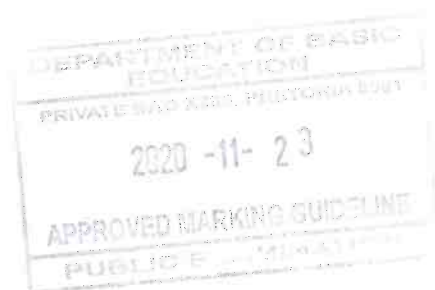


Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
2.2.2	$\text{Volume wood/hout} = 2,7 \text{ m} \times 2,7 \text{ m} \times 0,038 \text{ m} \quad \checkmark \text{ SF} \quad \checkmark \text{ C}$ $= 0,27702 \text{ m}^3 \quad \checkmark \text{ CA}$ <p>Price of one piece of wood excl. VAT <i>Prys van een stuk hout BTW uitgesluit</i></p> $= 0,27702 \text{ m}^3 \times \text{R1 215} = \text{R336,58} \quad \checkmark \text{ MA}$ <p>Price including VAT/<i>Prys BTW ingesluit</i> = $\text{R336,58} \times 1,15$ $= \text{R387,07} \quad \checkmark \text{ MCA}$</p> <p>12 semi-circles cut form 6 boards/<i>12 halfrondes word uit 6 borde gesny</i></p> $\text{Cost/Koste} = \text{R387,07} \times 6 \quad \checkmark \text{ A}$ $= \text{R2 322,40} \quad \checkmark \text{ CA}$ <p style="text-align: center;">OR/OF</p> $\text{Volume wood/hout} = 2,7 \text{ m} \times 2,7 \text{ m} \times 0,038 \text{ m} \quad \checkmark \text{ SF} \quad \checkmark \text{ C}$ $= 0,27702 \text{ m}^3 \quad \checkmark \text{ CA}$ <p>Volume of 6 wooden boards $\checkmark \text{ A}$ <i>Volume vir 6 houtborde</i> = $0,27702 \text{ m}^3 \times 6$ $= 1,66212 \text{ m}^3$</p> <p>Cost of 6 boards/<i>Koste van 6 borde</i> = $1,66212 \times \text{R1 215}$ $= \text{R2 019,48} \quad \checkmark \text{ MA}$</p> <p>Cost with VAT/<i>Koste met BTW</i></p> $= \text{R2 019,48} + (15\% \times \text{R2 019,48}) \quad \checkmark \text{ MCA}$ $= \text{R2 322,40} \quad \checkmark \text{ CA}$ <p style="text-align: center;">OR/OF</p> <p>Price of wood including VAT/<i>Prys van hout BTW ingesluit</i> $= \text{R1 215} \times 1,15 = \text{R1 397,25} \quad \checkmark \text{ MCA}$</p> $\text{Volume wood/hout} = 2,7 \text{ m} \times 2,7 \text{ m} \times 0,038 \text{ m} \quad \checkmark \text{ SF} \quad \checkmark \text{ C}$ $= 0,27702 \text{ m}^3 \quad \checkmark \text{ CA}$ <p>Cost/<i>Koste</i> = $\text{R1 397,25} \times 0,27702$ $= \text{R387,07} \quad \checkmark \text{ MA}$</p> <p>Cost for 12 semicircles/<i>Koste vir 12 halvesirkels</i> $= \text{R387,07} \times 6 \quad \checkmark \text{ A}$ $= \text{R2 322,40} \quad \checkmark \text{ CA}$</p>	<p>1SF volume of wood 1C conversion 1CA simplification</p> <p>1MA calculating cost</p> <p>1MCA adding 15%</p> <p>1A 6 boards 1CA cost</p> <p style="text-align: center;">OR/OF</p> <p>1SF volume of wood 1C conversion 1CA simplification</p> <p>1A 6 boards</p> <p>1MA calculating cost</p> <p>1MCA adding 15%</p> <p>1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1MCA adding 15%</p> <p>1SF volume of wood 1C conversion 1CA simplification</p> <p>1MA calculating cost</p> <p>1A 6 boards 1CA simplification</p>	<p>F L3</p> <p style="text-align: center;">2020 -11- 23</p> <p style="text-align: center;">(7)</p> <p style="text-align: center;">[38]</p>

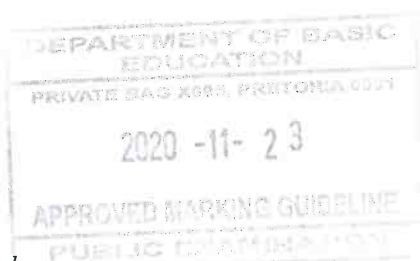
QUESTION/VRAAG3 [39 MARKS/PUNTE]			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
3.1.1	<p>✓ A The data is discrete./Die data is diskreet</p> <p>✓✓ O Percentages run from 0 to 100 and depends on the total of the test and the mark obtained. It is presented as whole numbers. <i>Persentasies is van 0 tot 100 en hang af van die totaal van die toets en die punt behaal. Hier is dit aangebied as heelgetalle.</i></p>	<p>1A discrete</p> <p>2O opinion</p> <p>(3)</p>	D L4
3.1.2	<p>Median score test 2/mediaan</p> $= \frac{66 + 67}{2} \quad \checkmark \text{RT} \quad \checkmark \text{M}$ $= 66,5 \quad \checkmark \text{CA}$	<p>1RT correct value</p> <p>1M median concept</p> <p>1CA simplification</p> <p>(3)</p>	D L2
3.1.3	<p>Mean/Gemiddeld = $\frac{Y (\% \text{ mark}) + 1\,443}{18} = 84 \quad \checkmark \text{MA}$</p> <p>$Y (\% \text{ mark}) = 18 \times 84 - 1\,443 \quad \checkmark \text{M}$</p> <p>$= 69\% \quad \checkmark \text{CA}$</p> <p>OR/OF</p> <p>$18 \times 84 = 1\,512 \quad \checkmark \text{MA}$</p> <p>$Y + 1\,443 = 1\,512 \quad \checkmark \text{MA}$</p> <p>$Y = 1\,512 - 1\,443 \quad \checkmark \text{M}$</p> <p>$= 69\% \quad \checkmark \text{CA}$</p>	<p>1MA adding all known % marks</p> <p>1MA mean concept</p> <p>1M changing the subject</p> <p>1CA simplification</p> <p>OR/OF</p> <p>1MA mean concept</p> <p>1MA adding all known % marks</p> <p>1M changing the subject</p> <p>1CA simplification</p> <p>(4)</p>	D L3
3.1.4	<p>✓✓RT</p> <p>Helen : $87\% - 57\% = 30\%$</p> <p>✓RT</p> <p>Kevin : $97\% - 67\% = 30\%$</p> <p>[Note: Afrikaans scripts the answers will be Paul & Oscar]</p>	<p>2RT candidate</p> <p>1RT candidate</p> <p>(3)</p>	D L3
3.1.5	<p>$Q_3/K_3 = 71\% \quad \checkmark \text{A}$</p> <p>$Q_1/K_1 = 61\% \quad \checkmark \text{A}$</p> <p>$\text{IQR} = Q_3 - Q_1/\text{IKO} = K_3 - K_1$</p> <p>$= 71\% - 61\% \quad \checkmark \text{MCA}$</p> <p>$= 10\% \quad \checkmark \text{CA}$</p>	<p>1A quartile 3</p> <p>1A quartile Q_1</p> <p>1MCA IQR concept</p> <p>1CA simplification</p> <p>(4)</p>	D L3

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L										
3.1.6	$P_{(\text{non distinction/nie onderskeiding})} = \frac{8}{18} \quad \checkmark A$ $= \frac{4}{9} \quad \checkmark CA$ <p style="text-align: center;">OR/OF</p> $P_{(\text{distinction/onderskeiding})} = \frac{10}{18} = \frac{5}{9} \quad \checkmark A$ $P_{(\text{not distinction/nie onderskeiding})} = 1 - \frac{5}{9} = \frac{4}{9} \quad \checkmark CA$	CA value of Y from 3.1.3 1A numerator 1A denominator 1CA simplification OR/OF 1A numerator 1MA subtracting from 1 1CA simplification (3)	P L3										
3.1.7	Mode/Modus = 73% $\checkmark\checkmark A$	2A modal value (2)	D L2										
3.2.1	View Terrace OR/OF View OR/OF Terrace $\checkmark\checkmark RT$	2RT Reading from the map (2)	MP L2										
3.2.2	Facing oncoming traffic/Sy gaan in aankomende verkeer vasry OR/OF One way road/Dit is 'n eenrigtingpad $\checkmark\checkmark O$	2O reason (2)	MP L4										
3.2.3	North west/Noordwes or/of NW $\checkmark\checkmark A$	2A correct direction (2)	MP L2										
3.2.4	$\checkmark A$ 21 mm = 110 yards/jaart $\checkmark A$ $XY = \frac{50 \times 110}{21} \quad \checkmark M$ $XY = 261,904 \dots \text{yards/jaart} \quad \checkmark CA$ $\approx 262 \text{ yards/jaart}$ [Bar scale accept measurements in the range 20 mm to 23 mm For XY measurements in the range 47 mm to 53 mm]	1A measuring scale 1A measuring distance 1M working with scale 1CA answer NPR (4)	MP L3										
3.2.5 (a)	<table><tr><td>Parking offence</td><td>Parkeer boete $\checkmark\checkmark O$</td></tr><tr><td>Street parking is limited to 1 hour before 5 pm</td><td>Parkering is beperk tot 1 uur voor 5nm.</td></tr><tr><td>Exceeded allowable duration of parking.</td><td>Oorskryding van toegelate parkering</td></tr><tr><td>Free parking time was over</td><td>Gratis parkeering het verstryk</td></tr><tr><td>Parked for more than 1 hour.</td><td>Parkeer vir meer as 1 uur</td></tr></table>	Parking offence	Parkeer boete $\checkmark\checkmark O$	Street parking is limited to 1 hour before 5 pm	Parkering is beperk tot 1 uur voor 5nm.	Exceeded allowable duration of parking.	Oorskryding van toegelate parkering	Free parking time was over	Gratis parkeering het verstryk	Parked for more than 1 hour.	Parkeer vir meer as 1 uur	2O Reason for charge (2)	MP L4
Parking offence	Parkeer boete $\checkmark\checkmark O$												
Street parking is limited to 1 hour before 5 pm	Parkering is beperk tot 1 uur voor 5nm.												
Exceeded allowable duration of parking.	Oorskryding van toegelate parkering												
Free parking time was over	Gratis parkeering het verstryk												
Parked for more than 1 hour.	Parkeer vir meer as 1 uur												

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
3.2.5 (b)	<p>From/<i>Vanaf</i> 12:00 - 15:25 = $(3 - 1) + \frac{25}{60}$ ✓M ✓C</p> <p>= 2,416666667 hours/<i>uur</i> ✓CA</p> <p>Rate per hour/<i>Koers per uur</i> = $\frac{£79,75}{2,416666667}$ ✓M</p> <p>= £33 ✓CA</p> <p>OR/OF</p> <p>From/<i>Vanaf</i> 12:00 - 15:25 = 3 h 25 min</p> <p>Hours she was charged for /<i>Ure waarvoor sy beboet is</i></p> <p>3 h 25 min – 1 h = 2 h 25 min ✓M ✓CA</p> <p>2 h 25 min = 145 min ✓C</p> <p>Rate per hour/<i>Koers per uur</i> = $\frac{79,75 \times 60}{145}$ ✓M</p> <p>= $\frac{4\,785}{145}$</p> <p>= £33 ✓CA</p>	<p>1M subtracting free hour</p> <p>1C conversion minutes into hours</p> <p>1CA total charged hours</p> <p>1M division by hours</p> <p>1CA simplification rounded to the nearest pound</p> <p>OR/OF</p> <p>1M subtracting free hour</p> <p>1CA total charged hours</p> <p>1C conversion hours into minutes</p> <p>1M division by minutes</p> <p>1CA simplification rounded to the nearest pound</p> <p>(5)</p>	F L3
		[39]	



QUESTION/VRAAG4 [34 MARKS/PUNTE]			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
4.1.1	$P_{\text{(odd seat/oneve)}} = \frac{2}{288} \times 100\%$ $= 0,69\%$	1A numerator 1A total seats 1CA simplification (3)	L2 P
4.1.2	$\frac{\checkmark RT}{D 10} \checkmark RT$	1RT row 1RT seat (2)	L2 MP
4.1.3	Person at D7: <ul style="list-style-type: none"> Turn left walk towards the corridor. / <i>Draai links en loop na die gang.</i> Turn right walk towards the stage. / <i>Draai regs en loop na die verhoog.</i> At end of the corridor turn left. / <i>Aan die einde van die gang draai links.</i> Walk towards the last seat in the front of section B. / <i>Loop na die laastesitplek in afdeling B.</i> 	1A turn left and walk 1A turn right towards stage 1A turn left end of corridor 1A last seat; section B (4)	L3 MP
4.1.4	Collection/Insameling: $150 \times \$28,60 = \$4\,290$ $57 \times \$26,40 = \$1\,504,80$ $33 \times \$17,60 = \$580,80$ Total collection/Totaal ingesamel $= \$4\,290 + \$1\,504,80 + \$580,80$ $= \$6\,375,60$ Excluding VAT/Sonder BTW = $\frac{\$6\,375,60}{1,10} = \$5\,796$ Claim is CORRECT/Opmerking is KORREK	1MA multiply tariff by relevant total patrons. 1CA amount 1CA amount 1CA amount 1MCA total collection 1MCA dividing by 1,10 1CA amount excl. VAT 1O conclusion	F L4

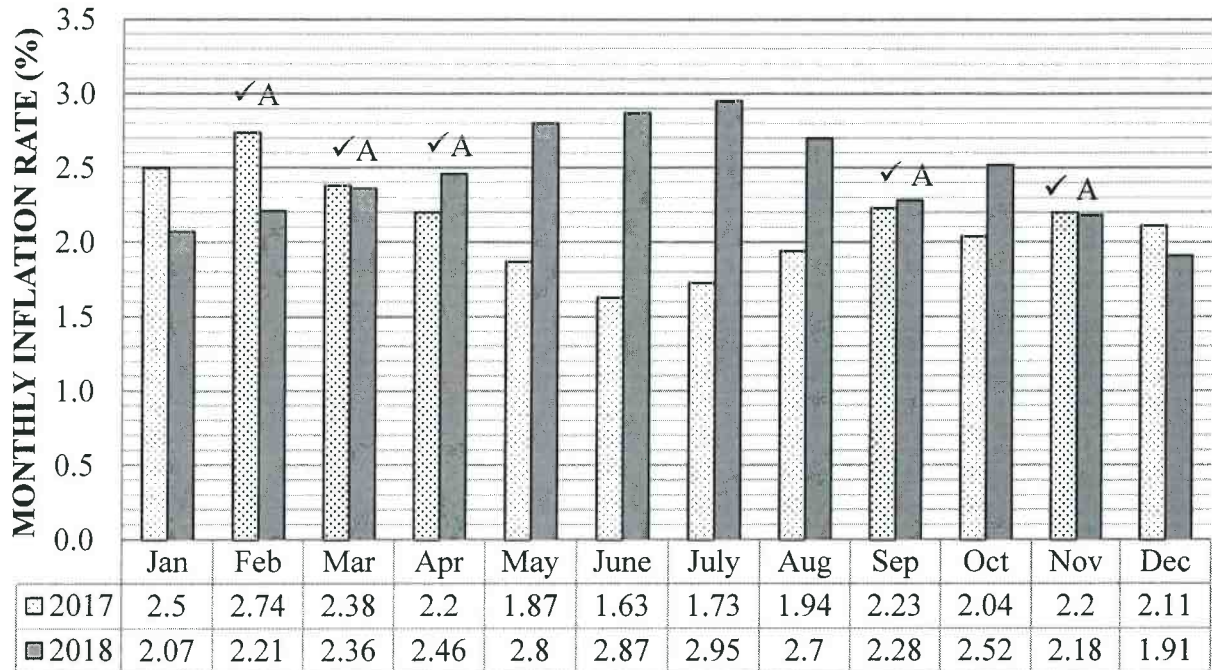


Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
	<p align="center">OR/OF</p> <p>Adults/volwasseenes = $53 + 57 + 40 = 150$</p> <p>Cost/Koste = \checkmark MA $\\$28,60 \times 150 = \\$4\,290$</p> <p>Cost excl VAT /Koste BTW uitgesluit = \checkmark MCA $\\$4\,290 \div 1,10$ $= \\$3\,900$ \checkmark CA</p> <p>Students/Studente = $15 + 32 + 10 = 57$</p> <p>Cost/Koste = $\\$26,40 \times 57 = \\$1\,504,80$</p> <p>Cost excl VAT /Koste BTW uitgesluit = $\\$1\,504,80 \div 1,10$ $= \\$1\,368$ \checkmark CA</p> <p>Children = $9 + 15 + 9 = 33$</p> <p>Cost/Koste = $\\$17,60 \times 33 = \\$580,80$</p> <p>Cost excl VAT/Koste BTW uitgesluit = $\\$580,80 \div 1,10$ $= \\$528$ \checkmark CA</p> <p>Total/Totaal = $\\$3\,900 + \\$1\,368 + \\$528$ \checkmark MCA $= \\$5\,796$ \checkmark CA</p> <p>The claim is correct/ Opmerking is KORREK \checkmark O</p> <p align="center">OR/OF</p> <p>Section A/Afdeling A: \checkmark MA</p> <p>$= 53 \times 28,60 + 15 \times 26,40 + 9 \times 17,60$</p> <p>$= 1\,515,80 + 396,00 + 158,40 = 2\,070,20$ \checkmark CA</p> <p>Section B/ Afdeling B:</p> <p>$= 57 \times 28,60 + 32 \times 26,40 + 15 \times 17,60$</p> <p>$= 1\,630,20 + 844,80 + 264,00 = 2\,739,00$ \checkmark CA</p> <p>Section C/ Afdeling C:</p> <p>$= 40 \times 28,60 + 10 \times 26,40 + 9 \times 17,60$</p> <p>$= 1\,144,00 + 264,00 + 158,40 = 1\,566,40$ \checkmark CA</p> <p>Total amount of Sections = $2\,070,20 + 2\,739,00 + 1\,566,40$ $= \\$6\,375,60$ \checkmark MCA</p> <p>Excluding VAT/Sonder BTW = $\frac{\\$6\,375,60}{1,10} = \\$5\,796$ \checkmark MCA \checkmark CA</p> <p>or/of</p> <p>$\\$5\,796 \times 1,1 = \\$6\,375,60$ which equals total collection</p> <p>Claim is CORRECT/Opmerking is KORREK \checkmark O</p>	<p align="center">OR/OF</p> <p>1MA multiply tariff by relevant total patrons.</p> <p>1MCA dividing by 1,10</p> <p>1CA amount</p> <p>1CA amount</p> <p>1CA amount</p> <p>1MCA total collection</p> <p>1CA amount excl. VAT</p> <p>1O conclusion</p> <p align="center">OR/OF</p> <p>1MA multiply tariff by relevant total patrons.</p> <p>1CA amount</p> <p>1CA amount</p> <p>1MCA total collection</p> <p>1MCA dividing by 1,10</p> <p>1CA amount excl. VAT</p> <p>1O conclusion</p>	

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
	<p style="text-align: center;">OR/OF</p> <p>Adult / <i>Volwassenes</i></p> <p>Price excl. VAT/ <i>Prys sonder BTW</i> = $\\$28,60 \times \frac{100}{110} = \\26 ✓ MCA</p> <p>Total amount/<i>Totale bedrag</i> = $26 \times 150 = \\$3\,900$ ✓ CA</p> <p>Student / <i>Studente</i></p> <p>Price excl. VAT / <i>Prys sonder BTW</i> = $\\$26,40 \times \frac{100}{110} = \\24</p> <p>Total amount/<i>Totale bedrag</i> = $\\$24 \times 57 = \\$1\,368$ ✓ CA</p> <p>Children/<i>Kinders</i></p> <p>Price excl. VAT/ <i>Prys sonder BTW</i> = $\\$17,60 \times \frac{100}{110} = \\16</p> <p>Total amount/<i>Totale bedrag</i> = $\\$16 \times 33 = \\528 ✓ CA</p> <p>Total collection/ <i>Totale insameling</i> = $3\,900 + 1\,368 + 528 = \\$5\,796$ ✓ MCA ✓ CA</p> <p>Claim is CORRECT/<i>Opmerking is KORREK</i> ✓ O</p>	<p style="text-align: center;">OR/OF</p> <p>1MCA dividing by 1,10</p> <p>1MA multiply tariff by relevant total patrons.</p> <p>1CA amount</p> <p>1CA amount</p> <p>1CA amount</p> <p>1MCA total collection</p> <p>1CA amount excl. VAT</p> <p>1O conclusion</p> <p style="text-align: right;">(8)</p>	
4.1.5	<p>Cost in USD/<i>Koste in VSD</i></p> <p>✓RT = $\\$30,50 \times 0,71$ = 21,655 USD/<i>VSD</i> ✓ MCA</p> <p>Cost in rand/<i>Koste in rand</i></p> <p>= $\\$21,655 \times R14,43/\\$</p> <p>= R312,48 ✓ MCA</p> <p style="text-align: center;">OR/OF</p> <p>Conversion factor ZAR to AUD /<i>Herleidingsfaktor</i> :</p> <p>$R14,43 \times 0,71 = R10,2453$ ✓ A</p> <p>✓RT $\\$30,50 \times R10,2453$ = R312,48 ✓ MCA</p> <p style="text-align: center;">OR/OF</p> <p>Conversion to ZAR/ <i>Herlei na ZAR</i></p> <p>✓RT = $\\$30,50 \times 0,71 \times R14,43$ ✓ MCA</p> <p>= R312,48 ✓ MCA</p>	<p>1RT ticket price</p> <p>1MCA answer in USD</p> <p>1MCA answer in rand</p> <p style="text-align: center;">OR/OF</p> <p>1A Conversion factor</p> <p>1RT ticket price</p> <p>1MCA answer in rand</p> <p style="text-align: center;">OR/OF</p> <p>1RT ticket price</p> <p>1MCA Conversion</p> <p>1MCA answer in rand</p> <p style="text-align: right;">(3)</p>	L2 F

4.2.1

AUSTRALIAN INFLATION RATE FOR 2017 AND 2018

L2
D

5 × A for each correct bar

(5)

4.2.2

✓ A
June/*Junie*

✓ MCA

Difference/*Verskil* = 2,87% – 1,63% = 1,24% ✓ CA1A correct month
1MCA subtracting values
1CA simplification

(3)

L3
F

4.2.3

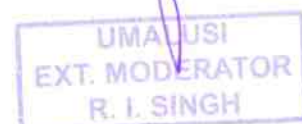
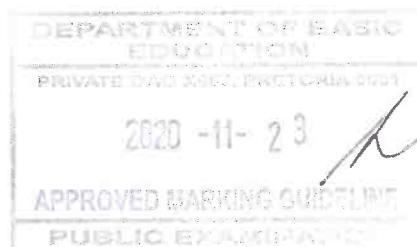
Inflation Nov/*Inflasie Nov* = AUD 156 831,36 × 2,18 %
= AUD 3418,92 ✓ RTDec cost of car /*Des koste* = AUD 156 831,36 + AUD 3418,92
= AUD 160 250,28 ✓ MCA
✓ CAInflation Dec/*Inflasie Des* = AUD 160 250,28 × 1,91 %
= AUD 3 060,78Jan. cost of car/*Koste in Jan.*
= AUD 160 250,28 + AUD 3 060,78
= AUD 163 311,06 ✓ CAIncrease/*Verhoging* = AUD 163 311,06 – AUD 156 831,36
= AUD 6 479,70 ✓ CAHe is incorrect/*Hy is NIE korrek NIE* ✓ O1RT correct rate
1MCA Increasing
1CA simplification1CA simplification second
month cost

1CA increase

1O opinion

F
L4DEPARTMENT OF BASIC
EDUCATION
PRIVATE BAG 2807, PRETORIA 0001UMALUSI
EXT. MODERATOR
R. I. SINGHP. TEMPLETON
UMALUSI MODERATOR

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
4.2.3	<p style="text-align: center;">OR/OF</p> <p>Inflation Nov/<i>Inflasie Nov</i> = $\\$156\,831,36 \times 2,18\%$ ✓ RT = $\\$3418,92$</p> <p>Dec. cost of car /<i>Des koste</i> = $\\$156\,831,36 + \\$3418,92$ ✓ MCA = $\\$160\,250,28$ ✓ CA</p> <p>Inflation Dec/<i>Inflasie Des</i> = $\\$160\,250,28 \times 1,91\%$ = $\\$3\,060,78$ ✓ CA</p> <p>Price increase = Inflation Nov + Inflation Dec <i>Prysverhoging</i> = <i>Inflasie Nov</i> + <i>Inflasie Des</i> = $\\$3418,92 + \\$3\,060,78$ = $\\$6\,479,70$ ✓ CA</p> <p>He is incorrect/✓ <i>Hy is NIE korrek NIE</i></p> <p style="text-align: center;">OR/OF</p> <p>December/ <i>Desember</i>: Cost of car/<i>Koste van motor</i> = $\\$156\,831,36 \times 102,18\%$ ✓ RT ✓ MCA = $\\$160\,250,28$ ✓ CA</p> <p>January/<i>Januarie</i> Cost of car/<i>Koste</i> = $\\$160\,250,28 \times 101,91\%$ = $\\$163\,311,06$ ✓ CA</p> <p>Increase/<i>Verhoging</i> = $\\$163\,311,06 - \\$156\,831,36$ = $\\$6\,479,70$ ✓ CA</p> <p>He is incorrect/<i>Hy is verkeerd</i> ✓ O</p> <p style="text-align: center;">OR/OF</p> <p>Price in January /<i>Prys in Januarie</i> = $\text{AUD } 156\,831,36 \times 1,0218 \times 1,0191$ ✓ RT ✓ MCA ✓ CA = $\text{AUD } 163\,311,0641$ ✓ CA</p> <p>Increase/<i>Verhoging</i> = $\text{AUD } 163\,311,06 - \text{AUD } 156\,831,36$ = $\text{AUD } 6\,479,70$ ✓ CA</p> <p>Incorrect/ <i>Nie korrek nie</i> ✓ O</p>	<p style="text-align: center;">OR/OF</p> <p>1RT correct rate</p> <p>1MCA Increasing</p> <p>1CA simplification</p> <p>1CA simplification second month inflation</p> <p>1CA increase</p> <p>1O opinion</p> <p style="text-align: center;">OR/OF</p> <p>1RT correct rate</p> <p>1MCA Increasing by %</p> <p>1CA simplification</p> <p>1CA simplification</p> <p>1CA increase</p> <p>1O opinion</p> <p style="text-align: center;">OR/OF</p> <p>1RT correct rate</p> <p>1MCA Increasing</p> <p>1CA Increasing</p> <p>1CA simplification</p> <p>1CA increase</p> <p>1O opinion</p>	F L4



	<p style="text-align: center;">OR/OF</p> <p style="text-align: right;">✓RT</p> <p>December price / Desember prys = AUD 156 831,36 × 1,0218^{✓MCA} = AUD 160 250,28 ✓CA</p> <p>January price / Januarie prys = AUD 160 250,28 × 1,0191 = AUD 163 311,06 ✓CA</p> <p>Adding the increase to the price in November Tel die verhoging by die prys in November = AUD 156 831,36 + AUD 6 500 = AUD 163 331,36 ✓CA</p> <p>Therefore/dus AUD 163 331,36 ≠ AUD 163 311,06 Incorrect / Nie korrek nie ✓O</p> <p style="text-align: center;">OR/OF</p> <p>Price end October = AUD 156 831,36 January price / Januarie prys = AUD 156 831,36 × 1,0218 × 1,0191^{✓RT ✓MCA ✓M} = AUD 163 311,0641 ✓CA</p> <p>Subtracting stated increase / Trek die beweerde verhoging af AUD 163 311,0641 – AUD 6 500 = AUD 156 811,06 ✓CA</p> <p>Therefore/dus AUD 156 831,36 ≠ AUD 156 811,06 Incorrect/ Nie korrek nie ✓O</p>	<p style="text-align: center;">OR/OF</p> <p>1RT correct rate 1MCA Increasing by % 1CA simplification</p> <p>1CA simplification</p> <p>1CA increase</p> <p>1O opinion</p> <p style="text-align: center;">OR/OF</p> <p>1RT correct rate 1M Increasing by % 1M Increasing by %</p> <p>1CA simplification</p> <p>1CA comparing values</p> <p>1O opinion</p> <p style="text-align: right;">(6)</p>	
		[34]	
		TOTAL/TOTAAL:150	

