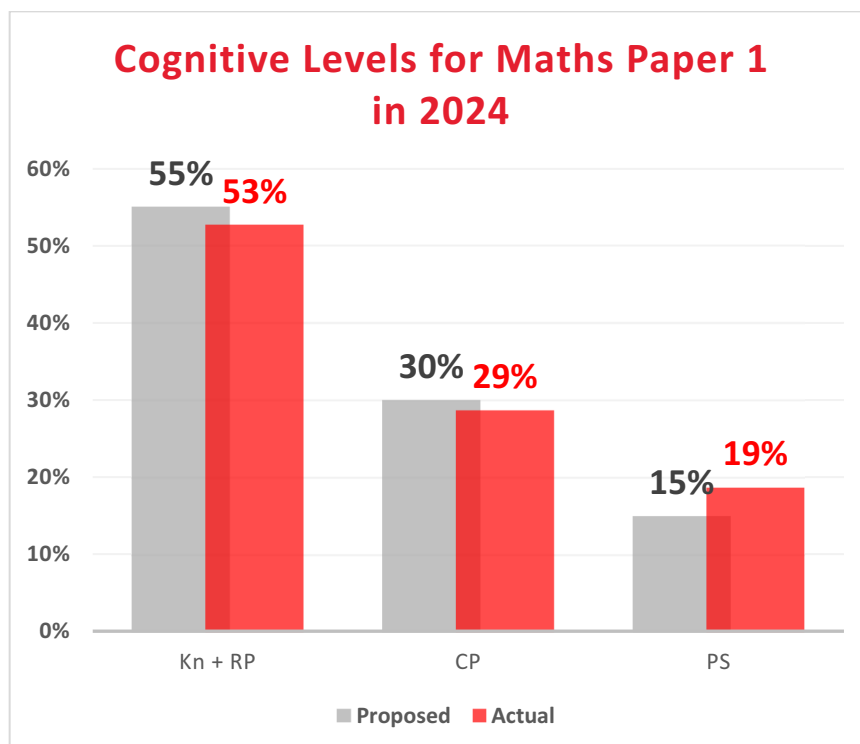


# Matric Maths Review 2024 Paper 1

The paper was fully compliant in terms of content coverage.

| Topics                                   | Prescribed | Examined   |
|------------------------------------------|------------|------------|
| Algebra and Equations (and inequalities) | $25 \pm 3$ | <b>27</b>  |
| Patterns and Sequences                   | $25 \pm 3$ | <b>24</b>  |
| Finance, Growth and Decay                | $15 \pm 3$ | <b>14</b>  |
| Functions and Graphs                     | $35 \pm 3$ | <b>34</b>  |
| Differential Calculus                    | $35 \pm 3$ | <b>34</b>  |
| Probability                              | $15 \pm 3$ | <b>17</b>  |
| <b>Total</b>                             |            | <b>150</b> |



## Presentation

Spacing between questions was good.

Single line spacing within questions contributed to the paper feeling “text heavy” in some questions.

Refer to questions 3, 7, 11 and 12.

## Diagrams

Diagrams were good.

## Technical aspects

It was helpful to have information bulleted in both questions 11 and 12.

Questions and formula sheet back-to-back is unhelpful as learners cannot tear out the formula sheet.

## Language use and/or problematic questions

**Please refer to the following questions for comments on wording, language etc.**

1.3, 2.1.2, 5.1, 5.5, 7.3.2, 9.4, 10.2

## Time Allocation

There were more comments than usual regarding lack of time for learners to complete the paper.

Mark allocations were very low at times, particularly in questions:

5.4, 6.2, 7.2, 8.2, 11.1 & 12.3.

## Standard of paper

There was a mixed reaction to the paper.

The paper was generally regarded as fair, but not by everyone.

Comments from teachers included below:

- fewer “knowledge and routine procedure” questions than in 2023
- the paper was challenging and did not favour weaker learners
- the paper accommodated highflyers
- the paper was fair and easy to pass but will separate out the stronger candidates

**The paper was well received and perceived to be fair by many teachers.**

## QUESTION BY QUESTION ANALYSIS

### Question 1

This question was very fair and well received, but 1.3 got a lot of criticism.

1.3 The wording was confusing and a question that had great potential was deemed to be unfair.

#### Given wording:

Consider the product  $\left(1 + \frac{1}{2}\right)\left(1 + \frac{1}{3}\right)\left(1 + \frac{1}{4}\right) + \dots$

Each factor in the product is in the form  $\left(1 + \frac{1}{n}\right)$  for  $n \geq 2$ .

Determine ALL the values of  $n$  for which the product will be an integer value.

#### Concerns

- It is not stated that  $\left(1 + \frac{1}{n}\right)$  represents the final term in the product.
- In theory,  $n$  can be any odd number from 3 on i.e. 3; 5; 7; 9; ...
  - It is not possible to determine ALL the values of  $n$ .
  - The factors all take on the form  $\left(1 + \frac{1}{n}\right)$ , so if  $n$  is odd how can all the factors take on this form?

#### Suggested wording:

Consider the product  $\left(1 + \frac{1}{2}\right)\left(1 + \frac{1}{3}\right)\left(1 + \frac{1}{5}\right) \dots \left(1 + \frac{1}{n}\right)$

Determine the values of  $n$  for which this product will be an integer.

Or

What are the possible values of  $n$  in the last factor for this product to be an integer.

### Question 2

2. The easiest question came last ... most of this question had an unfamiliar, inaccessible feel.

2.1.2 Concern was expressed around the language used in this question ... would second and third language learners have been able to process the information? Words like “extended” are not necessarily familiar to these learners.

It was also felt that the question was potentially ambiguous because there were two different series within the question.

2.2.2 Although this should be routine, there was a lot of debate around the fact that its placement after 2.1.2 and 2.2.1 made it feel more like a complex question.

### Question 3

Very mixed feedback, ranging from fair to unfair.

For second or third language learners this question was too “wordy”.



### Question 4

This question was well received by everyone.

### Question 5

For the most part, this question was regarded as fair and accessible.

5.1 The notation of the domain was unfamiliar. It was felt that the use of this notation was unnecessary.

5.5 The Afrikaans translation was confusing. It was suggested that this should have been:  
... negatief VIR die gegewe definisieversameling.

The response to 5.5 was inconsistent with some teachers regarding it as unfair and others really liking it.

### Question 6

On balance, the question was fair. 6.4 was regarded as a good, non-routine question.

### Question 7

7.3.2 The Afrikaans was difficult to read due to 2024 R22 300,98 next to each other.

The sentence could have been: "Op 1 Maart 2024 het Tshepo 'n bedrag van R22 300,98 ...".

Despite the challenges in 7.3.2 the question was generally regarded as fair.

### Question 8

8.1 This question was well received.

8.2 Too few marks.

8.3 This question attracted a lot of criticism ... why ask random questions on inverse functions in calculus? This made no sense to anyone as it felt like an “after thought”.

### Question 9

This question was based on theory and conceptual understanding, with very little working.

9.1 – 9.3 were well received. These questions were both refreshingly different and accessible.

9.4 The wording of this question attracted criticism.

- The question asks for “the” value of  $k$  . . . what is expected here?  
How will a candidate’s response be marked if only one value of  $k$  is given?
- Why is there a restriction that the intercepts must be “positive”? It is impossible for the

$x$  -intercepts to be negative for the given scenario, making this stipulation confusing.

### Question 10

This question was debated at length.

Some teachers complained that this question favoured learners who also took FS Maths or Physical Sciences, and disadvantaged learners who took commerce subjects.

It is accepted that the calculus of motion is in CAPS, but ...it was felt that the question needed more context.

- neither  $s$  nor  $t$  were properly explained ...
- $s$  is usually associated with displacement ...

10.2 This question picked up additional flack because it was felt by some teachers that it required an understanding of integration. There was also a lot of discussion about the fact that learners had to make assumptions about the constant being zero.

### Question 11

This was well received and regarded as fair.

### Question 12

There were mixed reactions to this question.

Some teachers thought it was easy, some thought it was challenging and some commented on the unfairness of the language for FAL and second additional language learners.

## SUMMARY

Please take special note of comments relating to questions 1.3, 2.1.2, 5.1, 5.5, 7.3.2, 9.4, 10.2.

Questions with low mark allocations contributed to learners struggling to complete the paper.

We appreciate how challenging it is to set a national paper and commend the examiners on setting an excellent paper that was well balanced and fair, despite all of our “constructive criticism”.

## Comments submitted by teachers after the TAS – AMESA review of Paper 1

### Positive comments

The paper was not difficult and not easy. It was a mix bag of the question paper.

The inverse functions that are integrated with calculus what was that had to do with differential calculus.

I define the paper as a WOW.

Dit was tog vir my n moeilike vraestel, maar nie ondoenbaar nie.

Generally, the paper was good and catered for different levels. Sequences and series was asked nicely more especially question 3.

Great paper

it was a nice paper

The paper was fair. I do think that at times the language was a bit unclear. More attention is needed here, especially for second language learners.

The paper was fair but complex

Question paper is fair. Most of the questions accommodate most of the learners

Good work by examiners there will always be room for improvement otherwise heads up to them, we understand it's not an easy task at all 🙏🙏🙏

Good paper - difficult problem solving but that is good

A great paper that challenged the learners while giving the ones who struggle some rewarding questions.

WELL BALANCED QUESTION PAPER

Strong learners commented that it was easy enough for them to get 80% but that it was challenging to get 90% or more. This is as it should be.

### Critical feedback

5.5 was tricky to average and weak learners to interpret.

9.4 asked for value yet it's values.

Ques 10, it's tricky to be given derivative in the Optimisation question.

The paper was different from what we have seen before and could be a bit challenging for level 1 and 2 learners. Number pattern questions (2 & 3) had lot of wording which needed lot of interpretation. For an average learner this could have been a challenging paper as compared to above average learner.

The font used in the paper is a bit small.

Learners not doing Physics were disadvantaged in question 10

Ek dink daar was genoeg roetine vrae vir die grootste aantal leerling om DEUR TE KOM. Maar die onregverdigheid is die feit dat die PROBLEEMOPLOSSING punte was te veel. Dit veroorsaak dat daar nie genoeg onderskeidings is nie en dus is daar baie leerlinge wat keuring tot kursusse hierdeur sal verloor!

The language was not in favour of the learners

There were a lot of challenging questions in the paper. We do expect the paper to be on standard and not be easy, but for the average learner I think it was a difficult paper.

The Q9 was nicely structured. that type of graph is often a challenge for learners to draw, but being given the graph and followed with straight forward questions was a bonus. GOOD QUESTION. Q8.3.2 and Q8.3.3 had nothing to do with calculus and would subtract these 4 marks and add them to functions.

The format of some of the easily accessible questions made the paper a bit tricky. The question which used time didn't state it and the non-physics or below -average learner would be puzzled. expected some challenging questions but the paper may have unsettled learners as they had to think about what they were doing at quite a few questions.

Question 10, 10.2 could have been clearer

Number patterns was not the usual "easy to score" questions. Weaker learners will definitely struggle. Mark allocation with work done in certain questions are a concern

Some nice questions but a few mark allocations were unfair in my opinion and wordy question disadvantage some learners. 8.3.2 - They did not state that the range on the original function has to be unchanged so perhaps the learners do not have to restrict from the TP. I am sure they will, but just something that I thought was a non-negotiable to add to these restrictions on the domain questions.

I think the paper was fair though I'm a bit concerned with some of the mark allocations.

It was a good paper, but I think it was difficult to do very well. (more than 90%)

Recommend clearer and more concise questions. My learners struggle when the instructions are too long and tedious.

The question paper would have thrown the average learner as the questions were mostly asked from a different perspective. Mark allocation was deceiving in some questions. Thank you for setting an interesting and fairly fair paper

Besides,Q10, learners and teachers will be caught off guard, for the type of question not assessed in a few years

I think there too many difficult questions. The mark allocation is a problem.

I feel they still need the checking and accommodating of non-mother tongue English speakers.

Mark allocation for certain questions was too low e.g. questions 5 and 6

## General comments about the paper (from TAS Teacher Community WhatsApp Groups)

### Positive comments

The paper was accessible to all learners

It was fair.

Fair paper

Good paper with enough easy questions but also challenging questions for the stronger candidates.

The paper was fair.

It was a challenging paper. The few difficult questions were really difficult.

20 punte was regtig moeilik

The paper was just fair.

I think it was a good balanced paper.

Challenging

I think it was a fair paper. Very easy to pass, but I like it that you have to know your work very well and be able to apply the work, to get your A.

It was a fair paper

Die vraestel het op die oog af billik en doenbaar gelyk.

Looks easy

The paper gave troubles in Question 10 and the last question. The last question was tricky, and finance was a bit challenging

We worked through the paper and thought all the levels were tested; and deep understanding of certain topics were tested, and strong learners who understand the topic would be able to figure it out.

Very fair paper with few high order questions, but generally a good paper indeed

It was generally fair, about 54% worth of accessible marks. The paper was somewhat wordy and reliant of language comprehension, especially the patterns section. The use of inverse notation in calculus was definitely confusing for many anxious learners, they probably assumed it was still calculus notation.

Functions were great.

It was a good paper

Fair paper.

I think the paper was generally a fair paper, balanced in terms of cognitive levels.



It was a fair paper and catered for all cognitive levels

Our evaluation gives 50% for K&R, 40% for C and 10% for P.

So the paper was a little hard with too many complex level questions.

Fair paper. Addresses all cognitive levels.

It wasn't fair honestly speaking, those questions were level 4 questions,

I'm good at what I do but I struggled a lot in that paper, I hope you can do something about it

This seemed like an unfair paper for the students, there were too many questions requiring deep thought, which makes it difficult for learners on all levels.

The paper generally aligns well with the CAPS topic and difficulty distributions, making it accessible for most learners. The slight emphasis on Routine Procedures likely supported broad student engagement with a substantial portion of the exam, though the lack of Level 1 (Knowledge) questions may have increased the challenge for some.

Overall, learners who prepared well had a fair opportunity to perform, and we may anticipate a slightly right-skewed distribution of scores, reflecting strong performance among those who engaged thoroughly with the syllabus content.

The Paper was fair, there were enough Level 1 and 2 Questions, to allow weaker candidates to score Marks.

Balanced paper in my opinion.

### Critical feedback

The paper accommodates highflyers. Prog learner will struggle. All questions in number pattern had words problems and I find it unfair to struggling learners.

Not in favour for level 1 and 2 learners

Level 1s & 2s not so many compared to 2023 paper

On the difficult side. Some of the questions language not all that clear.

Very easy, in fact too easy. The 15% level 4 questions were there, but the rest was straight forward.

Was fair but some questions were much difficult especially 2.2.2 and 3.2.

They are far-fetched for underperforming learners.

**Exam discussion hosted jointly by AMESA and "The Answer Series", Cape Town**