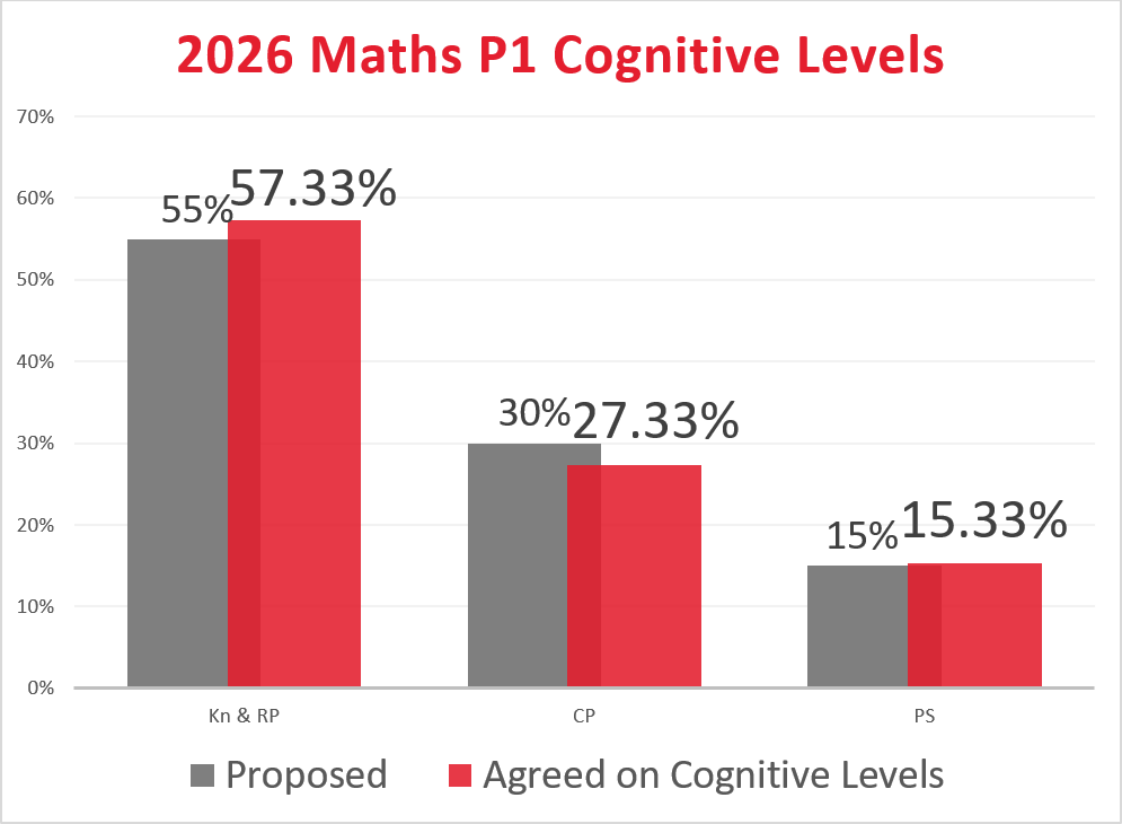
# 2026 Gr 12 DBE NSC Maths Paper 1 Review

**The paper was fully compliant in terms of content coverage.**

| Topics | Prescribed | Examined |
|---|---|---|
| Algebra and Equations (and inequalities) | 25 ± 3 | 24 |
| Patterns and Sequences | 25 ± 3 | 23 |
| Finance, Growth and Decay | 15 ± 3 | 14 |
| Functions and Graphs | 35 ± 3 | 36 |
| Differential Calculus | 35 ± 3 | 36 |
| Probability | 15 ± 3 | 17 |
| **Total** | | 150 |




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## Presentation




The overall presentation of the paper was good.

## Diagrams

Although most of the diagrams were good, the graph of the hyperbola, in Questions 6, was confusing.

Since both B and D had coordinates with fractions, why were different scales used on the axes?

## Coverage

The coverage of the different topics was perfect.

## Language use and/or problematic questions

1.3 How will this question be marked if learners assume natural numbers or integers?

3.2 The statement that the tank was "half full after 36 minutes" and empty after 54 minutes could be misinterpreted. It may not be immediately clear that the volume discharged during the first 36 minutes equals the volume discharged during the remaining 18 minutes.

**Suggested wording:**
"After 36 minutes, half of the original volume of water remained in the tank. The tank was completely empty after 54 minutes."

4.1 "Explain why" . . . what type of justification is required?

6.5 The instruction involving reflection in the "axis of symmetry with a negative gradient" is mathematically valid, but cognitively dense.

Learners first need to identify the correct axis before performing the reflection.

**Suggested wording:**
"The hyperbola has two axes of symmetry. Reflect point B in the axis of symmetry that has a negative gradient to obtain point D."

7.3.2 Concerns were raised regarding the wording of this question.

There was some confusion around the number of payments with some top students assuming that an extra payment had to be added to 240 because of the reasoning below:

- She made her first withdrawal on 31st January 2024. (1 withdrawal)
- She will continue to withdraw this same amount at the end of each month **thereafter** for a period of 20 years. (240 withdrawals)
- Total of 241 withdrawals

Please consider accepting both options, i.e. n = 240 as well as n = 241.

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11.3 This question was debated at length.

- Was this question fair in the context of language challenges encountered by many learners?
- Why did the bottles of **fruit juices** in the general information change to bottles of juice?

11.3.1 Was this intended to be routine or problem solving?

There was confusion between the flavours and the types of drinks.

Some read the question to mean that one flavour was selected from each type of drink.

This resulted in them calculating 3! instead of 9!

11.3.2 The use of factorials in 11.3.1 complicated this question.

It was more easily answered with probability than with counting principles, but 11.3.1 gave the impression that factorials were needed.

- The wording requires learners to infer the number of bottles remaining after an unspecified number of juice bottles broke. This reverse-counting context may obscure the actual probability task.

  **Suggested wording:**

  "An unknown number of juice bottles broke. The remaining bottles, including both energy drinks, were then arranged randomly in a row. The probability that the two energy drinks were placed at opposite ends was $\frac{1}{21}$. Determine how many juice bottles broke."

- Although problem solving questions cannot usually be done by inspection, this question can easily be done by trial and error and learners who use this method clearly understand the question.
  - there are only 2 flavours of energy drinks
  - a few bottles were broken implies not all the bottles were broken
  - by inspection there are 2 broken bottles



P(1 broken bottle) = $\frac{2}{8}\times\frac{1}{7}=\frac{1}{28}$ ✗ (8 bottles left)

P(2 broken bottles) = $\frac{2}{7}\times\frac{1}{6}=\frac{1}{21}$ ✓ (7 bottles left)

P(3 broken bottles) = $\frac{2}{6}\times\frac{1}{5}=\frac{1}{15}$ ✗ (6 bottles left)

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## Comments from teachers

- I think we need to investigate the possibility of banning the FX 911 calculator. There have been multiple instances in Paper 1, and again in this year's Paper 2, where using the FX 911 calculator makes certain questions significantly easier. Even if students use it simply to check their answers, this provides valuable feedback and reassurance.

  I do think it gives students an advantage, and if the calculator were equally accessible to everyone, I would be comfortable with its use. However, given the existing inequalities in our education system as a result of our country's history, I feel it is unfair to further widen this divide by allowing a calculator that is realistically only accessible to students whose families have the financial means to purchase it.

  The difficulty is that it is incredibly challenging to avoid setting questions where the FX 911 calculator offers an advantage. If we cannot reliably avoid these questions, then I think we need to consider banning the calculator altogether.

  Furthermore, if the calculator is permitted in the examination room, how do we deal with questions such as "determine the x-intercepts" when the question does not explicitly state that a calculator may not be used? Would it be fair to penalise students for using a calculator that they are permitted to have in the examination room?

- Very well balanced. I think the weaker learners didn't pick up on the difficulty, and they felt that they could do the paper which helps them get the easy marks

- I thought it was a different, not as straight forward question. Learners had to think a bit beyond known practices.

- A good challenge

- I think the paper had too much reading for the learners which might have been problematic for weaker learners, Question 3, Question 11.3

- Please consider how they will mark trial and error in the last question of the paper. especially if the learner has set up their equation correctly but then uses trial and error to solve. Also, not following the instruction to use the graph in question 5.3, should not be penalised since learners have to do additional calculations to be able to answer the questions.

- I think the diagram in Question 6 was misleading. I understand that diagrams are not drawn to scale, but I don't think they have to be disproportional. I believe some learners who would have attempted 6.5 correctly might end up leaving the question as their correct solution with positive value of x would seem incorrect when you look at the graph.

- I think the questions that required multiple steps (even though they may not have been difficult) compromised on the learners' TIME and therefore they could not complete the paper.

- I like the paper. Was nice to write. Got a lot of good questions

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- Thanks for a wonderful paper, but it is full of word sums
- Good paper, high quality, learners had to think!
- To limit word problems or make it easy to understand especially those that don't speak English.
- The paper was well constructed, mathematically sound and broadly aligned with the expected NSC Paper 1 content distribution. It provided meaningful differentiation and assessed learners' ability to connect concepts, reason mathematically and apply procedures in unfamiliar contexts. However, the paper contained a high concentration of multi-step, complex-procedure questions.

  Questions 3.2, 6.4, 6.5, 7.3, 9.2 and 11.3.2 were particularly demanding because learners had to interpret the context or establish a mathematical model before completing substantial calculations. This may have created time pressure and limited opportunities for less confident learners to demonstrate foundational knowledge.

  Some instructions, particularly in Questions 3.2, 6.5 and 11.3.2, could also have been expressed more explicitly. Shorter sentences and clearer sequencing would have improved accessibility for learners who study Mathematics through an additional language, without reducing the intended mathematical demand.

  Overall, the paper was of a high standard and covered the curriculum effectively. A slightly greater proportion of accessible knowledge and routine-procedure marks, together with more direct wording in selected contextual questions, would improve fairness and cognitive balance while maintaining the required NSC standard.
- I feel functions were a bit unfair.
- I find that many learners are using the Solve feature on the white calculator...and going straight to the answer. No understanding and calculations... e.g. solving inequalities.
- 2026 paper 1 was fair compared to 2025 P1, each question had different levels accommodating all the learners.
- Thank you
- Nice paper.
- I think learners were challenged with 3.2 and felt uneasy after that.
- 9.1.2. "white" calculator gives the roots; pupils without it will spend more time for 3 marks compared with those who have one.
- UNFAIR MARK ALLOCATION IN Q9.1.3
- Delightful new look, wake up call to us to remain even more current and on the pulse.



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## QUESTION BY QUESTION ANALYSIS

### Question 1

1.1.3 This question was fair but contained a few challenges.

1.1.3 This is not unfair, but not routine. (two different bases)

### Question 2



2.1 This question was fair, although 2.1.3 was challenging.

2.2 A very accessible question.

### Question 3

3.1 A fair question.

3.2 The wording was criticised as it is unlikely that water suddenly passes through the hole at the end of a minute. It was particularly challenging for second or third language learners.

### Question 4

This question was fair.

### Question 5

This question was regarded as fair and accessible, but there was some concern about the instruction given in 5.3.1, i.e. "Use the graph . . ."

In the absence of a turning point:

- The turning point had to be calculated before the graph could be used.
- An inequality could be created and then solved.

Why does the graph have to be used when it is not necessarily the best approach?

### Question 6

Please use the same scale on the axes when drawing a hyperbola.

6.4 This was generally regarded as fair, but not everyone was happy about the fact that this question required the use of the discriminant.

6.5 This question can be solved in many ways and promoted a lot of interesting discussion.

### Question 7

This question was fair, but the wording in 7.3.2 caused confusion around the number of payments.

- She made her first withdrawal on 31st January 2024. (1 withdrawal)
- She will continue to withdraw this same amount at the end of each month **thereafter** for a period of 20 years. (240 withdrawals)
- Total of 241 withdrawals
  Please accept 240 or 241 for the number of withdrawals.

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## Question 8

This question was well received and considered very fair.

## Question 9

9.1 This question was well received.

9.2 The information about the rate at which the gradient of $f$ is changing at $x = 2$ was easily missed and referred to by some as "hidden". Perhaps bulleting the information would have made this question more accessible.

## Question 10

This question was generally regarded as fair, but 10.1 drew some criticism.

When a box is open, please state the "outer" surface area of the box so that learners know that they do not need to consider the inner surface area.

## Question 11

11.1 and 11.2 were well received.

11.3 This question drew a lot of discussion and criticism, as did the fact that 11.3.1 felt like a distractor, rather than a useful lead into 11.3.2.

# SUMMARY

The paper was refreshingly different and of a good standard.

It was rated as fair, but many teachers expressed surprise at the balanced cognitive levels.

The general consensus was that the levels do not really reflect one's experience of writing this paper.

It was full of niggly questions that left one feeling unsettled or unsure, despite the fact that they were not necessarily challenging.

This was largely attributed to very wordy questions with challenging language and the need for interpretation that potentially ups the level of the question. Once the question has to be read many times, and processed, then the solution is relatively easy.

The paper was error free, and the translations were excellent.

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