



Examiners' Report Principal Examiner Feedback

Summer 2025

Pearson Edexcel International GCSE
In Mathematics A Modular (4WM2F) Paper 01
Unit 2F Foundation Tier

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PE report on 4WM 2F Summer 2025

The paper was generally accessible to all candidates, with only a small number of non-responses, even on the more challenging questions. Candidates earned a significant number of method marks, demonstrating solid practice through detailed working. In Question 25, it was encouraging to see that very few candidates obtained the correct x and y values through direct substitution into the calculator; instead, many made attempts at algebraic manipulation, reflecting a stronger understanding of the process. Overall, candidates faced more difficulty with the algebraic manipulation questions (12e, 23, 25, 26) compared to the numerical problems. Candidates demonstrated a solid understanding of key mathematical concepts, such as averages, prime numbers, and enlargement, even though they were not always able to manipulate or apply them in the correct context.

Question 1

All parts were completed successfully, with candidates providing clear and well-articulated explanations for part a(ii) and for part (c).

Question 2

Candidates performed well in parts (a) and (b), demonstrating their understanding of the terms 'congruent' and 'symmetry'. In part (c), while the majority achieved full marks, some errors were observed. Many candidates scored 1 mark by correctly identifying one or two sides in their enlargement, indicating partial understanding.

Question 3

This question was answered very well by candidates overall. However, in part (a), some candidates misread the scale, marking each point as 0.1 instead of the correct 0.2

Question 4

Few candidates made errors in part (a). However, in part (b), while most achieved full marks, a notable number lost a mark due to incorrect calculation of the minutes. These candidates often subtracted 1350 from 1635 when working towards their answer.

Question 5

For part (a), many candidates scored a mark. Some candidates incorrectly measured the acute angle instead of the obtuse angle. Candidates performed much better on parts (b) and (c), with the vast majority earning marks. In parts (d) and (e), most candidates were unfamiliar with the mathematical name of line

AB as the tangent, or did not understand the concept of 'order of rotational symmetry,' respectively. For part (f), candidates confidently converted 4.3 litres into millilitres.

Question 6

The question was answered very effectively, with most candidates achieving full marks. In part (a), we accepted the frequencies listed in the tally column, and some candidates provided probabilities, which were condoned if accompanied by the corresponding frequency. For part b), very few candidates made errors in their bar chart.

Question 7

It was encouraging to see that most candidates were able to achieve good marks on this question, with a high proportion earning full marks. The majority correctly identified the value of one pineapple and, consequently, the cost of two oranges. However, some candidates lost marks by not progressing further in the question or by failing to provide the total cost of one pineapple and one orange.

Question 8

For part (a), candidates, whether new or unfamiliar with the method, often struggled to determine the number of grey cars. This difficulty was reflected in the polarised mark distribution—either full marks or none—although most candidates achieved full marks. A common incorrect approach was to divide 30 black cars by 360.

In part (b), many candidates seemed to struggle with this part. However, most candidates managed to earn some marks by calculating the remaining angle in the pie chart as 140° , provided that this angle was either shown in the diagram or clearly labelled in their working. Instead of dividing this 140° by the ratio 2:5, some candidates incorrectly divided 140° by 2, which resulted in no additional marks. Some candidates recognised that they had to divide by 7, but instead divided 360 by 7.

Question 9

It was encouraging to see that most candidates performed well on this problem-solving question, with the majority achieving full marks. Several different approaches were observed, with the primary methods aligning with those outlined in the mark scheme. Although some candidates used an incorrect conversion from litres to millilitres, their follow-through demonstrated understanding sufficient for the first method mark. Among those who did not achieve full marks, some arrived at an answer of $11(.111\dots)$ and were unsure of how to proceed further.

Question 10

Part (a) was very well answered, with the majority of candidates achieving full marks. Most demonstrated a clear method that led them to the correct answer. Unfortunately, Part (b) proved more challenging for many candidates. A common incorrect response was 25%, often resulting from candidates interpreting the 1:4 ratio as the fraction $\frac{1}{4}$ rather than understanding it as a ratio. Overall, candidates tended to score either full marks or no marks in roughly equal proportions

Question 11

Part (a)

It was encouraging that most candidates were able to identify and explain the incorrect step in the working. A variety of valid explanations were provided, and multiple responses were acceptable. Many candidates who answered correctly solved the problem from the beginning and arrived at the answer of 50. Those who did not earn this mark often gave incomplete reasons, such as stating that there should be a bracket around $4 \times - 5$ or around $- 5$, without explaining the impact of these. Such responses scored 0 marks because they did not address how these errors affected the calculation.

Part (b)

The most common mistake among those who did not score full marks was omitting a value, typically 1 or 9.

Question 12

Part (a) and (b) were very well answered by the majority of candidates. However, candidates found Part (c) challenging, often applying incorrect initial steps, which resulted in many receiving no marks. Nonetheless, it was encouraging to see that a good proportion of candidates achieved full marks. In Part (d), most candidates scored full marks, though I was expecting a higher overall success rate. For Part (e), candidates generally struggled to earn marks, with most scoring zero. Specifically, in (ei), some candidates confused $w + 9$ with $9w$, and in (eii), many did not attempt the question. Those who did attempt it were able to secure one mark for providing a formula for T involving two of the people - A common expression for T was $T = 4w + 9$.

Question 13

It was encouraging to observe that most candidates managed to earn at least one mark on this question, with roughly an equal number receiving one mark as those earning two. Many of those who did not score correctly misunderstood the question, focusing on the highest common factor (5) rather than the lowest common multiple.

Question 14

This question proved to be very challenging. Many appeared to struggle with understanding the question itself, as well as the underlying concept of bearings. The most frequent incorrect response was adding 180° and 73° . Candidates who achieved the first method mark typically did so by correctly labelling 107° on the diagram.

Question 15

Candidates performed well in both parts of the question. In Part (a), they successfully scaled from 4 to 12 people, and the correct answer was frequently observed. In contrast, Part (b) was more challenging; although more candidates achieved at least 1 mark, overall performance was slightly lower than in Part (a), with a significant proportion still earning full marks.

Question 16

Most candidates achieved 2 or 3 marks by correctly placing a 4 on the first card and a 6 on another card, earning a second mark for identifying the correct mode. Candidates who scored two marks often found it challenging to interpret and apply the information about the median. A notable number appeared uncertain about how to approach the question but still managed to secure 1 mark by accurately interpreting the range and placing a 4 on the first card. A few candidates had a mode of 6, but placed 6 on the wrong card, with some cards left empty. As a result, they could not be awarded the mark, as they did not have a list of 6 numbers.

Question 17

We saw many weak responses for this question. Those attempting to find an area sometimes made errors, typically related to calculating the area of the trapezium. Many candidates treated the shape as a compound figure—either as a rectangle (8×3) combined with a triangle (4×3)—or as a single large 12×3 rectangle which led to errors in combining the parts. Overall, candidates seemed unable to correctly identify the areas of the individual faces or they calculated the volume of the prism instead of its total surface area.

Question 18

Most candidates earned some marks for this question. The majority achieved full marks, while those who did not typically scored 1 mark for calculating the difference. A frequent error involved dividing the difference by the final amount or calculating the difference and then dividing by 100. Although these methods were incorrect, they still earned them 1 mark.

Question 19

Those candidates who earned marks typically achieved full marks; some demonstrated an understanding of the question and knew how the construction should appear with the two pairs of arcs. However, in certain instances, the arcs appeared to be artificially created rather than properly derived for the construction. Among those who received 1 mark, a few candidates demonstrated an understanding of what a perpendicular bisector should be and drew the line without including the arcs. Conversely, candidates who did not earn any marks either left the answer blank, drew an arc on only one side without completing the bisector, or attempted to construct an angle bisector instead.

Question 20

We saw some very strong responses but also some much weaker responses where the main error among those who scored 1 mark was having an incorrect constant with their $4n$. In part (b), a high proportion of candidates seemed to struggle. Many either did not seem to know what a prime number is or identified a prime number that was not in the sequence. Among those who gained a mark, 19 was the most commonly stated prime number. Acceptable responses included placing 3rd on the answer line with 19 appearing in the working space. Some candidates identified unexpected prime numbers within the sequence, such as 199.

Question 21

We saw some very strong responses but also some much weaker responses where a misunderstanding of the scale factor and perceiving it as a difference rather than a multiplier meant that no marks were gained. For example, they might have calculated $10 - 4 = 6$, then added this difference to 5 to get 11, rather than applying the scale factor as a multiplication. Very few candidates qualified for the follow through mark for part (b).

Question 22

It was encouraging to see candidates earning marks on this problem-solving question, with most scoring 3 or 4 marks. Overall, candidates generally gained at least one mark, often by knowing how to find one share or accurately identifying the initial amounts Pau, Sam, or Tia had. While some candidates seemed unsure about how the amounts changed, the majority managed to secure at least 3 marks. Those who did not achieve the final accuracy mark typically did so because they provided an incorrect amount (earning 2 marks) or, more commonly, failed to simplify the ratio properly—such as giving ratios as 4:3.5:4.5 or 80:70:90 for 3 marks. A significant number of candidates did not score on this question, employing an incorrect approach of $240 \div 3$, $240 \div 4$ and $240 \div 5$.

Question 23

A notable proportion of candidates appeared unsure of how to begin, indicating this may have been a more challenging question., while others appeared to understand that the 'mean' refers to an average and attempted to find the mean of some or all of the numbers in the table, often using the frequency values. Those who earned marks typically did so by correctly calculating some of the products using the midpoints and occasionally summing them, but they seemed to struggle to properly handle the variable x .

Question 24

A significant number of candidates handled this compound interest question effectively, demonstrating their ability to apply the multiplier raised to the power of 3 to reach the correct solution and earn full marks. Conversely, weaker responses often scored 1 mark for accurately calculating the initial 7% increase or for one of the special cases outlined in the mark scheme. Many candidates approached this as a straightforward simple interest problem.

Question 25

Most candidates did not obtain a score on this question, either leaving it blank or performing incorrect manipulations. However, it was encouraging to see many candidates achieving full marks. Some candidates scored two marks, losing one mark due to an arithmetic error when aligning the coefficients of x or y to eliminate a variable. Subsequent substitution allowed them to secure both method marks.

Question 26

For part (a) while many recognized the need to rearrange the terms, common mistakes were made in the process. Those who successfully isolated the terms in t generally lost marks due to errors in the direction of the inequality. Part (b) proved to be even more difficult than part (a). The most common error was for finding 2 out of the three inequalities with the opposite inequality symbols or equal signs.

Question 27b

This question received the highest number of blank responses; however, among those who attempted it, it was encouraging to see that most candidates achieved a mark for part (a). The most common error was arriving at an answer of 2×10^6 due to incorrect division of the values. For part (b), the most common correct responses were simplified to either 0.5×10^6 or 5×10^n , each earning 1 mark.

Based on their performance on this paper, candidates should

- Always reread the last line of a question to ensure it has been addressed it fully.
- Address common errors in algebraic manipulation through additional practice.
- Practice questions with inequalities, particularly in understanding that dividing both sides of an inequality by a negative number reverses the inequality sign.
- Cover the topic of the n th term of a sequence thoroughly.
- Emphasise the importance of showing working for questions.
- Annotate diagrams wherever possible to aid in calculations and understanding.

GunnyP 04/07/25

