

GCSE Examiners' Report

Mathematics

GCSE

Summer 2025

© WJEC CBAC Ltd.2025



Introduction

Our Principal Examiners' report provides valuable feedback on the recent assessment series. It has been written by our Principal Examiners and Principal Moderators after the completion of marking and moderation, and details how candidates have performed in each component.

This report opens with a summary of candidates' performance, including the assessment objectives/skills/topics/themes being tested, and highlights the characteristics of successful performance and where performance could be improved. It then looks in detail at each unit, pinpointing aspects that proved challenging to some candidates and suggesting some reasons as to why that might be.¹

The information found in this report provides valuable insight for practitioners to support their teaching and learning activity. We would also encourage practitioners to share this document – in its entirety or in part – with their learners to help with exam preparation, to understand how to avoid pitfalls and to add to their revision toolbox.

Further support

Document	Description	Link
Professional Learning / CPD	Eduqas offers an extensive programme of online and face-to-face Professional Learning events. Access interactive feedback, review example candidate responses, gain practical ideas for the classroom and put questions to our dedicated team by registering for one of our events here.	https://www.eduqas.co.uk/home/professional-learning/
Past papers	Access the bank of past papers for this qualification, including the most recent assessments. Please note that we do not make past papers available on the public website until 12 months after the examination.	Portal by WJEC or on the Eduqas subject page
Grade boundary information	<p>Grade boundaries are the minimum number of marks needed to achieve each grade.</p> <p>For unitised specifications grade boundaries are expressed on a Uniform Mark Scale (UMS). UMS grade boundaries remain the same every year as the range of UMS mark percentages allocated to a particular grade does not change. UMS grade boundaries are published at overall subject and component level.</p> <p>For linear specifications, a single grade is awarded for the subject, rather than for each component that contributes towards the overall grade. Grade boundaries are published on results day.</p>	<p>For unitised specifications click here:</p> <p>Results and Grade Boundaries and PRS (eduqas.co.uk)</p>

¹ Please note that where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

Exam Results Analysis	Eduqas provides information to examination centres via the WJEC Portal. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.	Portal by WJEC
Classroom Resources	Access our extensive range of FREE classroom resources, including blended learning materials, exam walk-throughs and knowledge organisers to support teaching and learning.	https://resources.eduqas.co.uk/
Bank of Professional Learning materials	Access our bank of Professional Learning materials from previous events from our secure website and additional pre-recorded materials available in the public domain.	Portal by WJEC or on the Eduqas subject page.
Become an examiner with WJEC.	We are always looking to recruit new examiners or moderators. These opportunities can provide you with valuable insight into the assessment process, enhance your skill set, increase your understanding of your subject and inform your teaching.	Become an Examiner Eduqas

Contents

	Page
Executive summary	5
Foundation tier: component one	6
Foundation tier: component two	12
Higher tier: component one	19
Higher tier: component two	24

Executive Summary

Due to the nature of the cohort many foundation tier candidates struggled to engage with many of the questions that are common to higher tier.

At foundation tier, accuracy of calculations on the non-calculator paper continues to be a weakness. The correct method is shown but the execution of the method is incorrect. Bearings is also an area that requires improvement.

When candidates have a calculator, they must ensure they use it efficiently. Too often inefficient non-calculator methods are employed for example when calculating a percentage, partitioning is used as opposed to direct calculation, repeated addition is used to reach a total as opposed to division.

When calculating angles, the correct mathematical language should be used e.g. corresponding angles (not F-angles), alternate segment theorem (not alternative segment theorem).

Multi-step problem solving questions will always be asked. Candidates need to be encouraged to organise their working in a manner that can be followed, ideally adding a label or sub-heading to their work. The final answer should be clearly identified.

Candidates need to ensure they re-read the question when they believe they have completed it, have they answered to required accuracy? Have they answered the question – written it as a fraction/calculated the change? On numerous occasions easy marks were lost through not checking the requirements of the question.

Candidates need to check their answers for reasonableness. Is a cost of £125 reasonable for a protractor? Is a car speed of 125 mph reasonable?

MATHEMATICS

GCSE

Summer 2025

FOUNDATION TIER: COMPONENT ONE

Overview of the Component

While many candidates were able to engage effectively with a substantial portion of the paper, a significant proportion encountered difficulty with questions that are common to the higher tier component.

It was noted that very few candidates employed checking strategies—such as the use of inverse operations—to verify their answers. The consistent use of such techniques should be encouraged in order to enhance the accuracy of responses.

There was no indication that time constraints prevented candidates from attempting the questions that were within their ability.

Comments on individual questions/sections

- | | |
|--------------------------------|---|
| Q.1 (a)
Order of operations | This part was well answered, with incorrect answers of 36 occasionally seen. |
| Q.1 (b)
Place value | Most candidates were able to write down the value the digit 5 in the number 23542. |
| Q.1 (c)
Factors | This part was well answered, though occasionally candidates omitted one or two factors, typically 1 or 20. |
| Q.1 (d)
Estimation | Few candidates were able to estimate the value of the calculation, with some neglecting to round the values before multiplying them. Some candidates rounded the values appropriately but made errors multiplying these values. |
| Q.1 (e)
Rounding | The minority of candidates answered this part correctly. Some agreed with David that there were 8 whole numbers that rounded to 750, whilst others stated there were 4 whole numbers, typically 746 – 749. |
| Q.2
Counters | This question was well answered, but some arithmetical errors were seen. |

- Q.3 (a) Part (i) was well answered, with most candidates recognising that Kali must have 0 blue marbles. Part (ii) was poorly answered, with many incorrect answers of 10 seen.
Chance with marbles
- Q.3 (b) Just over a quarter of candidates identified that William was correct and were able to explain why. Some candidates stated that Kali was correct or simply stated that there were 8 green counters.
Even chance
- Q.3 (c) Most candidates who recognised that $\frac{1}{4} = \frac{5}{20}$ went on to get both marks. Some candidates incorrectly added the three fractions to get a total probability of $\frac{11}{20}$.
Pens in a drawer
- Q.4 (a) This part was well answered by candidates, but some incorrect answers of 7% were seen.
Fraction as a percentage
- Q.4 (b) This part was answered correctly by many candidates. The most common incorrect answer was 0.9.
Percentage as a decimal
- Q.4 (c) Most candidates who correctly answered this part wrote both fractions with a common denominator of 20 to enable them to identify which was nearer to $\frac{13}{20}$. Some candidates converted the fractions to percentages or decimals, but they were more likely to make errors and sometimes they only converted two of the three fractions which prevented them from making an accurate comparison.
Comparing fractions
- Q.5 (a) Most candidates were able to accurately measure angle *BAC*.
Measuring an angle
- Q.5 (b) In this part, candidates were instructed to shade the smallest number of squares, but many shaded more than 4 squares.
Symmetry grid
- Q.6 Some arithmetical errors were seen in this question, with candidates often incorrectly obtaining 660 when subtracting 240 from 800, leading to a final answer of 33.
Annie's laptop
- Q.7 (a) Both (i) and (ii) were well answered.
Number machine
- Q.7 (b) This part was well answered. Incorrect answers were often due to arithmetical errors, typically when dividing 60 by 5.
Value of x

Q.8 (a) Collecting like terms	Nearly all candidates correctly obtained $3a$, but some candidates got $+8b$ or $-4b$ instead of $+4b$.
Q.8 (b) Solving an equation	This part was well answered, with some incorrect answers of 34 seen.
Q.8 (c) Substitution	Most candidates were successful at substituting the values of x and y into the expression, but some were unable to correctly calculate $-8 + 50$, with answers of -58 often seen.
Q.8 (d) Forming an expression	Most candidates were able to write a correct expression for the number of strawberries Jordan had left. Some correct answers were spoilt.
Q.9 (a) Evie's homework	Most candidates were able to correctly calculate $\frac{1}{4}$ of 24, but many found calculating $\frac{5}{12}$ of 24 a lot more challenging.
Q.9 (b) Criticising a bar chart	Over a quarter of candidates were able to identify an error in the bar chart. Some focused on the time spent on the different machines, often suggesting she spent too long on the cross trainer.
Q.10 Averages cards	Candidates were most successful at writing four numbers with a mode of 8 or range of 5. Those who wrote numbers that had a median of 7, typically gave a fully correct response.
Q.11 (a) Measuring length and bearing	The correct actual length of AB was often seen, but the correct bearing of point B from A was rarely seen.
Q.11 (b) Completing scale drawing	Candidates were a lot more successful at plotting the point C the correct distance away from B. They found the bearing much more challenging.
Q.11 (c) Bearing of due east	This part was poorly answered.
Q.12 Tram timetable	Some correct answers of 13:33 were seen in this question, but often candidates identified the correct leaving time for the tram (12:48) but made an arithmetical error when adding 45 minutes.

Q.13 (a) Writing a number as a fraction of another	Candidates found this part unexpectedly challenging, with some writing $27/12$ but unable to simplify it correctly. A special case mark was awarded for candidates who gave a final answer of $4/9$, obtained by correctly simplifying $12/27$.
Q.13 (b) (i) Prime number	Approximately half of candidates were able to identify 2 as the prime number in the list, with 1 or 3 being the common incorrect answers.
Q.13 (b) (ii) Cube number	Candidates were less successful at identifying one of the two cube numbers in the list.
Q.13 (b) (iii) Square root	Some candidates correctly identified 20 as the square root of 400, but most candidates selected 200 from the list.
Q.14 Expected profit	Candidates found this multi-step problem very challenging. Some clearly misinterpreted '14 or higher' as 'more than 14', with an incorrect final answer of £48 obtained by candidates who otherwise used a complete method to calculate the expected profit.
Q.15 (a) Travel graph	This part was poorly answered, with an incorrect answer of 45 minutes often seen.
Q.15 (b) (i) Completing travel graph	Candidates were a lot more successful at completing the first part of the journey on the graph, than the latter, with an arrival time of 13:30 often seen on the graph.
Q.15 (b) (ii) Average speed	Very few candidates were able to correctly calculate Sarah's average speed. Those who showed awareness of the formula to calculate speed usually divided 25 by 30 instead of 0.5.
Q.16 (a) Division in a ratio	Arithmetical errors often let candidates down in this question. Some candidates divided 480 by 12 but did not go any further.
Q.16 (b) Expressing a number as a % of another	Many candidates attempted to calculate 42% of 300, rather than what question asked, to express 42 as a percentage of 300.
Q.17 (a) Malakai's dog	Most candidates started multiplying $2/3$ by 7, but many got an answer of $14/21$ which didn't lead them to the correct final answer of 5 tins.

17. (b) Simplifying a ratio	Arithmetical errors often let candidates down in this part, with many unable to correctly divide 85 by 5. Some reversed ratios were seen.
Q.18 (a) Table of values	Most candidates were able to find the y values for $x = 1$ and $x = 3$, but some made errors calculating the y value for $x = -2$ with -8 often seen.
Q.18 (b) Drawing graph	Candidates who correctly found all three missing values in (a) typically went on to get both marks in (b). Some candidates did not join their points with a straight line.
Q.19 (a) Percentage of tips	Candidates found this part very challenging, with some simply stating that Peter deserved more tips because he worked 3 more hours than Tom.
Q.19 (b) Tips in a jar	In this part, candidates often picked up 1 mark for writing three values in the correct ratio but couldn't go any further. A common incorrect final answer was £35, obtained by simply halving £70.
Q.20 Perimeter of card – quarter circle	Most candidates who picked up any marks in this question simply identified the radius as 10 cm but could go no further. Few candidates were able to calculate the circumference of the circle; those who did often neglected to find a quarter of their answer.
Q.21 (a) Value of m	This was poorly answered.
Q.21 (b) Inequality	Very few candidates picked up marks in this part. Some formed an equation instead of an inequality, but even this was uncommon.
Q.22 Surface area of triangular prism	Few candidates were able to correctly calculate the length of BC, with Pythagoras's Theorem rarely seen. Those who did attempt Pythagoras typically added the squares of 6 and 10, rather than finding the difference between them.
Q.23 (a) Venn diagram	Few candidates demonstrated understanding of a method to calculate the value of x. When a correct answer was seen, it was often as a result of trial and error.
Q.23 (b) Probability from Venn	Candidates who engaged well with this question often found the number of pupils who completed only the French homework but did not go on to use this to give the probability.
Q.24 (a) Reciprocal	Very few candidates were able to correctly calculate the reciprocal of 0.4, with some simply writing 0.4 as a fraction in its simplest form.

- Q.24 (b)
Estimation
- It was very rare to see a fully correct response in this part, with some candidates obtaining a mark for correctly rounding 2 of the 3 values. Other candidates correctly rounded the 3 values but were unable to divide 33 by 0.3.
- Q.25
Pressure
- Candidates found this question very challenging, with some picking up 1 mark for correctly substituting into the formula for pressure. Some went on to rearrange the formula, but few were able to correctly divide 6.2 by 0.05.
- Q.26
Indices
- Few candidates showed awareness of the laws of indices and those who did often obtained 5^{-3} instead of 5^3 . A special case mark was available for candidates who correctly evaluated $5^{-3} = 1/125$ but this was rarely seen. Most candidates who obtained 5^3 went on to get the final answer of 125.
- Q.27 (a)
Wall building
- Candidates found this very challenging, with few having a clear strategy to calculate how long it would take the 8 workers.
- Q.27 (b) (i)(ii)
Assumption
- Most candidates incorrectly focused on the workers taking breaks in (i). Those who gave correct assumptions in (i) typically went on to explain the effect of their assumption being incorrect in (ii).

MATHEMATICS

GCSE

Summer 2025

FOUNDATION TIER: COMPONENT TWO

Overview of the Component

Candidates were allowed to use a calculator for this paper, but some chose to use non-calculator methods. For example, in question 12(a), some candidates used a partitioning method to find 37% of 650 instead of an efficient calculator method. Similar approaches were observed in question 14. When this method was used, numerical errors were often present.

Where a question required a candidate to calculate a fraction of an amount, they were expected to use the exact fraction and not a rounded or truncated decimal or percentage value. Doing so could lead to a prematurely approximated answer, which was not awarded full marks.

There were various questions on this paper that involved calculations with money. While these were generally answered well, incorrect money notation sometimes meant that accuracy marks could not be awarded, for example, writing 64p incorrectly as 0.64p.

There were several multi-step problem-solving questions throughout the paper. Candidates needed to use strategies to extract the relevant information from the question for each stage of the solution and to label each stage of their working appropriately.

Appropriate mathematical language was expected when describing parallel line angle properties, such as using the term "alternate angles" instead of informal terms like "Z angles."

All candidates appeared to have sufficient time to answer the questions that were within their capabilities.

Comments on individual questions/sections

Q.1 (a)
Writing a number in digits

This was well attempted, many candidates obtained the correct answer. A small number of candidates wrote each part of the number out separately e.g. 12 000 000 300 000.

Q.1 (b)
Ordering decimals

Occasionally a pair of numbers were ordered incorrectly, but often when the answer was not correct it was due to a consistent misconception. Treating the numbers after the decimal point as whole numbers often led to an incorrect answer of 2.07, 2.6, 2.45, 2.174.

Q.1 (c) Shading a fraction of an amount	This was well answered. A good proportion of candidates represented the correct fraction on the diagram.
Q.1 (d) Inequality notation	Occasionally candidates considered the magnitude of the number instead of its position on a number line. This led to the wrong decision about which inequality was incorrect.
Q.2 (a) Calculations with money	Well answered, however a small proportion of candidates spoiled their answer by using incorrect units e.g. 15.34p.
Q.2 (b) Calculations with money	Very well answered, most candidates who attempted the question got the answer correct.
Q.2 (c) Which is the best offer?	Candidates approached this question well, most responses observed involved a calculation for the total cost of the classes for a month. If this was calculated correctly it was usually followed by a correct conclusion. A small number of candidates gave a conclusion with no mathematical evidence; these responses were not creditworthy.
Q.3 (a) Properties of shape	Very few candidates were successful in identifying all the correct shapes for this question. They found rotational symmetry particularly difficult to identify. The most successful property to identify was the line of symmetry.
Q.3 (b) (i) Angles in a triangle	Well answered by candidates who had the correct starting point, angles in a triangle sum to 180° . A minority of candidates used 360° as the sum of the angles in a triangle.
Q.3 (b) (ii) Vertically opposite angles	The minority of candidates who attempted this question arrived at the correct answer.
Q.4 (a) Writing down coordinates	Most candidates could write down the correct coordinates. If the answer was incorrect, it was usually the correct coordinates reversed.

Q.4 (b) Midpoint of a line	A good proportion of candidates were able to identify the midpoint of the line and mark the point.
Q.4 (c) Using a scale	There were various errors observed on this question. It was common to see an answer of 270m, half of the journey's distance. Answers of 630m, and 450m, from a miscount of squares were also seen. Candidates who counted squares were generally more successful than those that measured the line.
Q.5 (a) Interpreting a pie chart	It was rare to see a correct fully simplified fraction. Where candidates started with 360° , a correct unsimplified fraction was usually awarded 1 mark. A common incorrect starting point was working with half of the pie chart and starting with a fraction out of 180° e.g. $\frac{30}{180}$ was often seen, leading to an answer of $\frac{1}{6}$.
Q.5 (b) Probability line	'D' was usually marked in the correct position at 0.5. It was not often all three letters were marked correctly.
Q.6 Area and perimeter	Many candidates found the problem-solving element of this question challenging. The correct length and width were rarely seen. If marks were awarded it was for selecting a length and width that satisfied one of the conditions given in the question. 6 and 7 were sometimes chosen as the values when area was considered but not perimeter. However, it was more common for a length and width to be selected that give a perimeter of 34cm, without area being considered.
Q.7 Identifying prime numbers	There were many good attempts at engaging with this problem, marks were often awarded for selecting two numbers that satisfied two of the given conditions.
Q.8 Solving equations with pictures	Candidates were comfortable engaging with this multi-step problem. The use of pictures made it accessible to nearly all candidates, and many obtained the correct values for all stationary items. However, a large proportion of candidates spoiled their final answer by using incorrect units e.g. 0.64p. Those that set out each stage of their workings on the answer lines were the most successful.
Q.9 (a) Substitution into a formula	Whilst most candidates were able to write out the formula with the values substituted correctly, a significant proportion of candidates went on to obtain an incorrect answer through misuse of BIDMAS. The use of a calculator would have been preferable in this question.

Q.9 (b) Using a formula in reverse	This question was not answered well, very few candidates were able to work backwards from the formula given a starting value.
Q.10 (a) Mode	Most candidates were able to identify the mode of the numbers.
Q.10 (b) Median	Whilst many candidates were able to order the numbers correctly and the two middle numbers, -8 and -5, were often identified, very few were able to calculate the median.
Q.10 (c) Mean	The problem-solving nature of this question proved challenging for most candidates. Some were able to make a correct start by multiplying the mean by the number of days. The use of negative numbers meant it was more challenging for them to identify the missing value.
Q.11 (a) Number sequence	Very well answered, most candidates obtained the correct answer.
Q.11 (b) Simplifying an expression	Not well answered. There were various errors that meant a fully correct response was very rare. Some candidates misunderstood the question and attempted a double bracket expansion. Others could not expand the single bracket correctly. Where the single bracket was expanded correctly, the terms $16y$ and $-6y$ were sometimes incorrectly collected to give an answer of $10y^2$.
Q.11 (c) Single bracket factorisation	Not well answered.
Q.11 (d) Solving a two-step equation	Most candidates attempted a formal method for solving equations, some obtained the correct answer through trials with a calculator.
Q.11 (e) Identifying an error in a method	Candidates found it a challenge to articulate the error in the calculation. Many referred to the square root instead of the cube root and its inverse operation.
Q.12 (a) Percentage of an amount	Candidates that used an efficient calculator method often obtained the correct answer. Where a partitioning method was used there were usually arithmetic errors leading to an inaccurate answer. Occasionally not enough working was shown for a convincing partitioning method to calculate 37%.

- Q.12 (b)
Fraction of an amount
- Candidates that used an appropriate method to calculate a fraction of an amount were more successful than those that converted the fraction to a decimal or a percentage. $\frac{2}{9}$ was sometimes seen as 0.22 or 22%, this led to an inaccurate final answer. Candidates should use the exact fraction to answer the question. Some candidates that correctly calculated the 106mm forgot to add it on to 477mm.
- Q.12 (c)
Finding a number as a percentage of another number
- Not well answered. A significant number of candidates attempted to calculate 54% of 171 instead of finding 54 as a percentage of 171.
- Q.13 (a)
Recipe
- There were some pleasing attempts at this question. Various strategies were observed using the original recipe to scale up to a recipe for 12 people. The most common strategy was finding the ingredients for 1 person and then multiplying it by 12. A common error was interpreting the original recipe as ingredients for 1 person and simply multiplying that by 12, hence giving the ingredients for 96 people.
- Q.13 (b)
Recipe
- 48 was the most common answer to this question which came from the misconception that the number of servings was required instead of the number of pies.
- Q.14
Simple interest
- Candidates who attempted this problem in a logical manner with the efficient use of a calculator were the most successful. Marks were often awarded for £135, the correct value for 5.4% of £2500. Following this, some candidates incorrectly used compound interest instead of simple interest. Those that did use simple interest often worked with multiples of £135 to find a value greater than £3500 instead of using a direct calculation. Occasionally the incorrect conclusion of 7 years was observed instead of 8 years following correct work.

Q.15 Proportion	The use of a calculator should be utilised in this question to ensure accuracy and avoid arithmetic errors. Many candidates used non calculator methods in their working and as a result did not obtain the correct answer. The cost of Brazil nuts (£13.44) was usually the part of the calculation that was correctly evaluated, followed by £8.40 (total cost for cashew nuts). But candidates found the calculation for the cost of 1kg of cashew nuts challenging.
Q.16 Parallel line angle properties	It was rare to see a fully correct response to this question supported by appropriate reasons. Correct angles were sometimes seen on the diagram; they were usually obtained using angles on a straight line or in a triangle. Parallel line angle properties were rarely used or referenced. Where they were referenced, the correct mathematical language was not used.
Q.17 (a) Speed/distance/ time	<p>This is a multi-step problem that requires the use of various pieces of information given in the stem of the question. Attempts at the question rarely used all aspects of the information required to obtain the final answer. It was common to see a correct first step e.g. converting 80 km/h into mph or converting the distance left to travel from miles into km.</p> <p>A direct calculation for the time was the best strategy to find the expected arrival time, those that applied approximations of distance covered for partitioned time periods were not successful in getting the final answer correct.</p>
Q.17 (b) Metric imperial conversion	This was generally well answered by those candidates who attempted it. When the final answer of 15 was not seen, a correct first step usually was.
Q.18 (a) Interpreting a correlation	Candidates were generally able to articulate the relationship between the distance from the city centre and the price per square metre correctly.
Q.18 (b) Reading a scatter graph	Well answered by those who interpreted the scale correctly.
Q.18 (c) Interpreting a scatter graph	Not well answered, many candidates agreed with the statement.

Q.18 (d) Estimating the mean	Very few candidates were able to complete the method for calculating an estimate for the mean from a grouped frequency table in full, but some could make a start. Correct midpoints were sometimes seen, occasionally followed by the sum of the midpoints multiplied by the frequencies. A common error following this was division by 5 (the number of groups) instead of the sum of the frequencies.
Q.19 Ratio problem	Candidates were often able to calculate the total value of the 20p coins or determine the number of 20p coins, but it was rare to see a fully correct solution. A common final answer was £10.80, the total value of all of Greg's coins if they were all 20p's.
Q.20 Pythagoras theorem and area of a circle	Very few candidates were able to recognise that Pythagoras' theorem was required to answer the question and so did not gain any marks. Many used either 13cm or $13\text{cm} \div 2$ as the radius of the circle.
Q.21 (a) Equation of a straight line	Not well answered. Some candidates were able to match at least two graphs correctly to their equations, but it was rare for all four to be matched correctly.
Q.21 (b) Equation of a straight line	Very few correct responses seen.
Q.21 (c) Changing the subject	Not well answered. Very few candidates scored marks on this question. Where a correct first step was completed, $\frac{y}{a} = x - b$, it was often followed incorrectly by $y = ax - b$.
Q.22 Tree diagram	Very few candidates were able to access this question. Where branches of the tree were completed with probabilities they were often used incorrectly in part (b).
Q.23 (a) Trigonometry, calculating a side	Not well answered. Very little knowledge of trigonometry was observed.
Q.23 (b) Trigonometry, calculating an angle	Not well answered. Very little knowledge of trigonometry was observed.

MATHEMATICS

GCSE

Summer 2025

HIGHER TIER: COMPONENT ONE

Overview of the Component

As with previous series, many candidates entered for this tier did not have the mathematical skills or knowledge to cope with the some of the demanding questions at this tier.

Checking processes were still missing, with very simple errors being made, including misreads of their own work. This led to many 'follow through' parts of a question much more difficult.

A lot of candidates are showing lots of working for some of the longer questions but with no clear indication of what is being calculated, or which solution is being presented. It was disappointing to see so many embedded solutions within working as opposed to signposting the correct answer as the last thing written.

Nearly all questions were attempted by the vast majority of candidates.

Comments on individual questions/sections

Q.1
Perimeter of
quarter circle

Many candidates did well although inappropriate use of the formula for the area of a circle was often seen. Not realising it was a quarter of a circle and incorrectly calculating the straight edges of the shape were also common features of a candidate's solution.

Q.2
Understanding
how compound
interest works

This question was very well answered by most candidates, despite a few clumsy explanations.

Q.3 (a)
Understanding
the power 0

Many correct solutions by candidates understanding the need for the power to be 0.

Q.3 (b)
Inequality
notation

A number of fully correct solutions, however a large number of candidates misunderstanding how to present double inequality notation.

Q.3 (c) Converting units for ratio	The most common incorrect solution was the choice of 5:12, ie a simplified ratio where distances had not been converted to either km or miles.
Q.4 Pythagoras and surface area	It was pleasing to see so much correct use of Pythagoras. Unfortunately, candidates did then not go on correctly to calculate surface area, with many candidates missing faces, counting the same surface twice or not dividing by 2 for the area of a triangle.
Q.5 (a)(b) Venn Diagram	Both parts very well answered with good understanding seen of how to form the equation. Most slips were numerical, from simple equation manipulation.
Q.6 (a) Subtracting fractions	Many fully correct solutions.
Q.6 (b) Reciprocal	Many candidates did not understand how to find the reciprocal of a number. There was confusion with perpendicular gradients and negated their answer.
Q.6 (c) Estimation	Not many fully correct solutions with a disappointing number of learners not being able to evaluate 3^3 and others thinking that 0 was a reasonable value to put on the denominator of a fraction.
Q.8 (a) Power manipulation	Many candidates obviously knew the rules for powers but could not cope with subtracting a negative value. Some candidates decided to leave the answer as 5^3 rather than evaluating it as the question had asked.
Q.8 (b) Standard form manipulation	Very few candidates realised they had to divide by 1000 and multiply by 60 to go from metres per second to kilometres per minute. Those that did usually went on to work correctly with numbers in standard form.
Q.9 Simultaneous equation	<p>Despite this question being set in a context and a potential problem with forming the equations, most candidates were able to extract 2 correct equations from the scenario.</p> <p>It was disappointing to see many numerical slips with multiplication and mishandling negatives as part of the elimination process for the first variable. Very few got full marks for this question.</p>

- Q.10 (a) (b) (c) Proportion This is obviously a topic in which candidates were not secure. For (a), those with good understanding answered this question neatly and with a minimum of steps. Unfortunately, those that weren't secure, tried, often fruitlessly, to get to the correct time for one of the changed variables but in most cases, very few marks were picked up by these candidates. Parts (b) and (c) were well answered although some clumsy wording let a number of candidates down.
- Q.11 (a) Show 90 not a term in sequence Various ways of showing this, however use of trials was the most common approach as opposed to a possibly easier way of reference to 90 being an even number from a sequence that could only give odd values.

Those that did use trials often led to a numerical slip.
- Q.11 (b) Next term in sequence of algebraic expressions Well answered by most, 1 mark was often lost due to an error in one of the three parts of the expression.
- Q.11 (c) Picture sequence Despite being a quadratic sequence, many candidates still presented a linear solution. Very few got full marks on this question.
- Q.12 Graphical region It was good to see so many fully correct answers again but on the flip side of that there were many candidates who obviously did not know where to start with the slanted lines. Even the vertical/horizontal lines caused problems for a number of candidates.
- Q.13 Rearranging a formula Again, a very poor attempt at a context free algebra manipulation question. It was either very well attempted by very few, but the vast majority did not get past the clearing the fraction.
- Q.14 (a)(b)(i)(ii) Histogram (a) Poorly answered by candidates who did not understand how histograms should be presented but also by others who did know, but lost the mark due to a clumsy explanation.

(b)(i) Many candidates were not able to draw the correct uniform scale, or any uniform scale for that matter. Those that did, also seemed to know how to find the median for b(ii). However, of those, a number made a numerical slip and therefore found it more difficult to find the median.

<p>Q.14 (c)(i)(ii)(iii) Cumulative frequency graph</p>	<p>(c)(i) A number of candidates misread the top value of the graph (25 instead of 24), even though it was stated in the stem.</p> <p>(c)(ii) It was especially disappointing to see candidates not able to accurately find the median and quartiles from the cumulative frequency graph.</p> <p>(c)(iii) Very few understood that the two additional values would not affect the median.</p>
<p>Q.15 Factorising and solving a quadratic</p>	<p>It was pleasing to see most candidates knowing what was needed in this question and making a good attempt at it, even if they did not find the correct factors. A few learners did not show the full factorised form before attempting to solve.</p>
<p>Q.16 (a) (b) Iteration</p>	<p>This topic was attempted by most but with varied success. Those candidates that did well in (a) generally did well in part (b) although the reverse process in part (b) did cause problems.</p>
<p>Q.17 (a) Fractional and negative powers</p>	<p>These basic powers were not at all well known by the majority of candidates which was disappointing.</p>
<p>Q.17 (b) Fraction to recurring decimal</p>	<p>It was worrying to see so many candidates struggling with division.</p>
<p>Q.17 (c)(d) Surd</p>	<p>Nearly all candidates attempted these questions but many numerical slips with signs and products of two surd terms led to full marks being given to very few.</p>
<p>Q.18 (a)(b) Vectors</p>	<p>Directional mistakes were the main problem with both parts in this question. It was pleasing to see, candidates who had obviously been taught how to prove that points are colinear.</p>
<p>Q.19 (a)(b) Probability</p>	<p>The slightly different context to this question meant that candidates struggled with accuracy in the numerators and denominators used in the products, however, yet again a number of candidates gained full marks to both parts of this question.</p> <p>It was disappointing to still see so many 'adding' their fractions. A number of candidates used tree diagrams however this did not necessarily help them.</p>

Q.20
Equation of
perpendicular
line

It was clear that many candidates had not been taught how to find gradients from an equation and then the gradient of a perpendicular line. Those that did, went to gain most marks on this question. There were many non-attempts at this question.

Q,21 (a)(b)(c)
Functions

Again, a variation of success here with just a few gaining full marks. The first two parts proved easier to access than the final part. However, even with the first two parts, so few candidates knew how to attempt these typical function questions.

MATHEMATICS

GCSE

Summer 2025

HIGHER TIER: COMPONENT TWO

Overview of the Component

It was pleasing to see a high level of engagement of the questions in this paper with attempt rates exceeding 90% for most of the questions. Weaker candidates made a good effort across much of the paper but whether these candidates were entered at the appropriate tier is another issue. Gaining less than 15% of the available marks must be discouraging and entry to Foundation Tier would have probably led to greater success and more confidence gained within the areas of mathematics assessed.

The use of a calculator is expected in this paper, but candidates are expected to show sufficient working to illustrate the method of solution they are employing. Candidates need to be encouraged to organise their working in a manner that can be easily followed. A number of candidates showed many attempts at working within the same question with no clear indication as to which solution was preferred. The final attempt is the one that is marked unless the candidate has indicated otherwise. There were also a number of 'multiple choice' questions left unanswered.

Candidates need to ensure that they re-read a question when they believe they have completed it. In many questions easy marks were lost through not checking the precise requirements of the question or the appropriateness of an answer.

In some questions the accuracy of the required answers is specified. In other questions candidates should consider the accuracy of the values provided in the question and work appropriately.

Comments on individual questions/sections

- | | |
|--|---|
| Q.1
Solving an equation, representing an inequality and factorisation | (a) was well answered with only a few candidates making errors expanding the bracket or collecting terms.

In (b) candidates were expected to solve the inequality and then represent it on the number line. A minority were able to solve the inequality but then represented it incorrectly. Around half the candidates simply gave the representation of the given inequality.

With (c) a majority of candidates were able to factorise the expression, and a few did factorise but failed to remove all the factors. |
| Q.2 (a) to (c).
Scatter diagram. | Well answered but in (c) too many candidates failed to appreciate that the line of best fit just gives a guide and does not give exact values. |

Q.2 (d). Mean of grouped data.	Well answered by the majority of the candidates. Still too many candidates decided to divide by 5 and not 35.
Q.3 Pythagoras and area of a circle.	A large number of candidates failed to appreciate that the use of Pythagoras' theorem was required to calculate the diameter or radius of the circle. Those that did generally answered the question successfully.
Q.4 Tree diagram.	Too many candidates failed to complete the tree diagram correctly putting numbers of counters on the branches and not probabilities. In (b) the fact that three branches were required for the solution proved to be a challenge for a larger number of candidates.
Q.5 (a) and (b). Equation of a straight line.	The majority of candidates had some success with (a) but in (b) only a minority were able to realise that $2y = 6x + 8$ can be written as $y = 3x + 4$ and thus has a gradient of 3.
Q.5 (c) Change of subject.	Only answered successfully by about half of the candidates. Too many candidates were unable to start the rearrangement successfully with $y = b + ax$ being a common incorrect first step.
Q.6. Trigonometry	In (a) the majority of candidates were able to answer it successfully although a number took a circuitous route to the solution. With (b) the use of Pythagoras' theorem was often seen with some candidates able to continue from here to find the solution. A number of candidates calculated the size of angle DEF by using $\tan^{-1}(17/19)$.
Q.7 Greg's money jar - ratio.	Most candidates were able to start the question correctly by using the ratio 3 : 4 to calculate the total value of the 20p coins. £10.80 was the common incorrect solution where candidates failed to appreciate that the 10p coins have half the value of the 20p coins.
Q.8 Density, mass and volume.	With (a) there were three stages required to calculate the volume of the original block: $\times 1000$, $\div 0.75$ and $\div 0.3$. Only a minority of candidates successfully applied all three stages, but many gained some marks by applying one of two stages correctly (and often an incorrect third stage). In (b) only a minority of candidates explained that Zachary should have divided by 2.5^3 and not by 2.5.

Q.9 Expressions: standard form, surds and indices.	Candidates found this question quite demanding with just over 4% of the questions not attempted. Candidates should always attempt multiple-choice questions.
Q.10 Similar triangles.	Only a few candidates were able to answer the question successfully. The common answer was 9.52 from $23.8 \times \frac{2}{5}$.
Q.11 Proof.	The use of brackets and order of operations proved a challenge for most candidates. Most candidates made errors with signs.
Q.12 Box plots.	Reading the vertical scale proved challenging for many candidates with each small square representing 0.2 hours or 12 minutes. Many candidates seem unaware that the quartiles represent 25% and 75% of the range. With (e) too many candidates thought the symmetry of the box plot illustrated a consistent sleep pattern rather than the smallest range or interquartile range.
Q.13 Surface area of a section of a sphere.	Candidates did not identify which of the three required areas, (the curved surface, the base, or the sides), they were finding. As a result, many missed one or two of these areas.
Q.14 Simplifying an algebraic fraction.	Marks were available for the individual factorisation of the numerator and the denominator. Too many candidates showed no understanding of fractions and simply cancelled the 12's. A few candidates obtained the correct answer of $\frac{x-3}{3}$ and then spoilt their answer with further incorrect simplification.
Q.15 Bounds	Marks were obtained for a calculation involving maximum \div minimum with the values being within the appropriate ranges. Candidates must ensure that the calculation that leads to their answer is clearly identified.
Q.16 Circle theorems.	Many candidates were able to gain one mark by using a circle theorem: $\widehat{BAC} = \frac{1}{2}x$ or $\widehat{ABC} = 65^\circ$. A few candidates were able to complete the proof correctly. Alternate angles was often seen instead of the alternate segment theorem.
Q.17 Area of triangle.	A demanding question where the use of angles in regular polygons was expected to allow candidates to calculate the angles in the triangle. The area of a triangle should then be found using $\frac{1}{2}ab\sin C$.

Q.18 Compound interest problem.	Finding the 4 th root proved a challenge for many candidates. Marks were available on follow through for an understanding of compound interest.
Q.19 Direct proportion.	A standard question that was well answered by around half of the candidates. A common error was $0.14 \div \sqrt{0.49} = 2$
Q.20 Similar volumes.	Only a few candidates understood how to calculate the ratio for similar volumes. 40% was the common incorrect answer.
Q.21 Bearings, cosine rule and average speed.	Candidates needed to identify that angle <i>ABC</i> was 137° and then use the cosine rule to calculate <i>AC</i> . Conversion of 1 hour 45 minutes to 1.45 hours was sadly too common.
Q.22 Equation of a circle.	Knowledge of the equation a circle centred at the origin is expected. Calculating the radius of the circle as 14 should have been fairly straightforward.
Q.23 Graphical transformation.	The candidates that knew that a horizontal translation of the original graph was required were able to gain at least one mark. The common incorrect solution was a translation of 4 units to the right.
Q.24 Area between a curve and line.	Using trapezia to calculate the area under that curve or the shaded area was expected. Many candidates resorted to the use of rectangles and triangles and failed to identify clearly which areas they were finding. Whilst not in the specification, candidates can, of course, use the trapezium rule to calculate the area.
Q.25 Forming and solving a quadratic. Equation.	Obtaining and equating the two rates was required to start the question. This was achieved by very few candidates. When using the quadratic formula, the substitution into the formula must be seen. Care is needed especially when 'b' is negative as in this question.

Supporting you

Useful contacts and links

Our friendly subject team is on hand to support you between 8.30am and 5.00pm, Monday to Friday.

Tel: 029 22 404 251

Email: mathematics@eduqas.co.uk

Qualification webpage: [GCSE Mathematics | GCSE Maths Past Papers & Resources | Eduqas](#)

See other useful contacts here: [Useful Contacts | Eduqas](#)

CPD Training / Professional Learning

Access our popular, free online CPD/PL courses to receive exam feedback and put questions to our subject team, and attend one of our face-to-face events, focused on enhancing teaching and learning, providing practical classroom ideas and developing understanding of marking and assessment.

Please find details for all our courses here: <https://www.eduqas.co.uk/home/professional-learning/>

Regional Rep Team

Our regional team covers all areas of England and can provide face-to-face and online advice at a time which is convenient to you.

Get in contact today and discover how our team can support you and your students.

[Regional Support Team | Eduqas](#)

Eduqas Qualifications

We are one of the largest providers of qualifications for schools, academies, sixth form and further education colleges across England, offering valued qualifications to suit a range of abilities. Each and every one of our qualifications is carefully designed to engage students and to equip them for the next stage of their lives.

We support our education communities by providing trusted qualifications and specialist support, to allow our students the opportunity to reach their full potential.



WJEC
245 Western Avenue
Cardiff CF5 2YX
Tel No 029 2026 5000
Fax 029 2057 5994
E-mail: exams@wjec.co.uk
website: www.wjec.co.uk