



# Mark Scheme (Results)

## Spring 2026

PEARSON EDEXCEL GCSE in Mathematics  
Foundation 1MA1/3H (Calculator)

### Aiming for Grade 8

The following table shows the marks scored on average at certain grades on similar questions from live exams.

For example: A student who achieved a Grade 8 on similar questions from either the Summer 2025 or November 2025 exam sittings achieved on average 34.4 marks from these questions.

| <b>Grade</b> | <b>9</b> | <b>8</b> | <b>7</b> | <b>6</b> | <b>5</b> | <b>4</b> | <b>3</b> |
|--------------|----------|----------|----------|----------|----------|----------|----------|
| <b>Mark</b>  | 39.1     | 34.4     | 25.7     | 18.6     | 11.9     | 6.6      | 3.5      |

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## General Marking Guidance

These notes offer general guidance, but the specific notes for examiners appertaining to individual questions take precedence.

- 1 All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.

Where some judgement is required, mark schemes will provide the principles by which marks will be awarded; exemplification/indicative content will not be exhaustive. When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the response should be sent to review.

- 2 All the marks on the mark scheme are designed to be awarded; mark schemes should be applied positively. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme. If there is a wrong answer (or no answer) indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

**Questions where working is not required:** In general, the correct answer should be given full marks.

**Questions that specifically require working:** In general, candidates who do not show working on this type of question will get no marks – full details will be given in the mark scheme for each individual question.

- 3 **Crossed out work**

This should be marked **unless** the candidate has replaced it with an alternative response.

- 4 **Choice of method**

If there is a choice of methods shown, mark the method that leads to the answer given on the answer line.

If no answer appears on the answer line, mark both methods **then award the lower number of marks**.

- 5 **Incorrect method**

If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review for your Team Leader to check.

- 6 **Follow through marks**

Follow through marks which involve a single stage calculation can be awarded without working as you can check the answer, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

- 7 **Ignoring subsequent work**

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question or its context. (eg. an incorrectly cancelled fraction when the unsimplified fraction would gain full marks).

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect (eg. incorrect algebraic simplification).

**8 Probability**

Probability answers must be given as a fraction, percentage or decimal. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

**9 Linear equations**

Unless indicated otherwise in the mark scheme, full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously identified in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded (embedded answers).

**10 Range of answers**

Unless otherwise stated, when an answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and all numbers within the range.

**11 Number in brackets after a calculation**

Where there is a number in brackets after a calculation E.g.  $2 \times 6 (=12)$  then the mark can be awarded **either** for the correct method, implied by the calculation **or** for the correct answer to the calculation.

**12 Use of inverted commas**

Some numbers in the mark scheme will appear inside inverted commas E.g. “12”  $\times$  50 ; the number in inverted commas cannot be any number – it must come from a correct method or process but the candidate may make an arithmetic error in their working.

**13 Word in square brackets**

Where a word is used in square brackets E.g. [area]  $\times$  1.5 : the value used for [area] does **not** have to come from a correct method or process but is the value that the candidate believes is the area. If there are any constraints on the value that can be used, details will be given in the mark scheme.

**14 Misread**

If a candidate misreads a number from the question. Eg. uses 252 instead of 255; method or process marks may be awarded provided the question has not been simplified. Examiners should send any instance of a suspected misread to review.

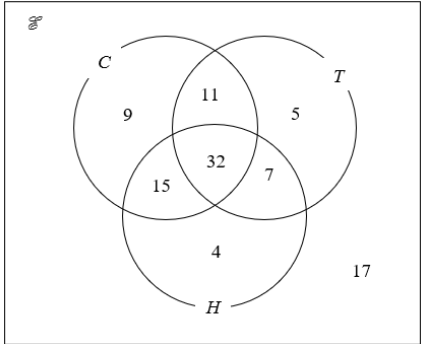
### Guidance on the use of abbreviations within this mark scheme

|              |  |
|--------------|--|
| <b>M</b>     | method mark awarded for a correct method or partial method   |
| <b>P</b>     | process mark awarded for a correct process as part of a problem-solving question   |
| <b>A</b>     | accuracy mark (awarded after a correct method or process; if no method or process is seen then full marks for the question are implied but see individual mark schemes for more details) |
| <b>C</b>     | communication mark awarded for a fully correct statement(s) with no contradiction or ambiguity   |
| <b>B</b>     | unconditional accuracy mark (no method needed)   |
| <b>oe</b>    | or equivalent  |
| <b>cao</b>   | correct answer only  |
| <b>ft</b>    | follow through (when appropriate as per mark scheme)   |
| <b>sc</b>    | special case   |
| <b>dep</b>   | dependent (on a previous mark)   |
| <b>indep</b> | independent  |
| <b>awrt</b>  | answer which rounds to   |
| <b>isw</b>   | ignore subsequent working  |

| Question | Answer         | Mark           | Mark scheme  | Additional guidance  |
|----------|----------------|----------------|--|--|
| 1 (a)    | 39, 14         | B1<br>M1<br>A1 | for Range = 39<br>for IQR = 56 – 42<br>for 14                          |  |
| (b)      | Yes, supported | C1             | for Yes, with reason, eg the median for class X is greater oe          | Yes may be implied by eg the word 'correct'<br>Must use the word 'median'<br>Ignore any reference to range / IQR                   |
| (c)      | No, supported  | C1             | ft (a) for No, with reason, eg the range/IQR for class Y is greater oe | No may be implied by eg the word 'incorrect'<br>Must use the word 'range' or phrase 'IQR'<br>C0 if also compare median in part (c) |

| Question | Answer            | Mark                   | Mark scheme   | Additional guidance   |
|----------|-------------------|------------------------|---|---|
| 2 (a)    | $\frac{126}{216}$ | P1<br><br>P1<br><br>A1 | <p>for process to use the ratio to find a correct probability,<br/>eg (P(blue) =) <math>\frac{5}{6}</math> oe or (P(red) =) <math>\frac{1}{6}</math> oe</p> <p>for process to find the probability of three counters of the same colour, eg <math>\frac{5}{6} \times \frac{5}{6} \times \frac{5}{6} \left( = \frac{125}{216} \right)</math> oe or <math>\frac{1}{6} \times \frac{1}{6} \times \frac{1}{6} \left( = \frac{1}{216} \right)</math> oe<br/>or <math>[p] \times [p] \times [p]</math></p> <p>for <math>\frac{126}{216}</math> oe, eg <math>\frac{7}{12}</math></p> | <p>Accept any equivalent fraction, decimal form, 0.16(6...) or 0.83(3...), or percentage form 16(.6...) % or 83(.3...) % rounded or truncated to at least 2 significant figures for P marks</p> <p>Where <math>[p]</math> is clearly identified as P(blue) or P(red) and <math>0 &lt; [p] &lt; 1</math></p> <p>Accept any equivalent fraction inc <math>\frac{126x^3}{216x^3}</math>, decimal form, 0.583(3...) or percentage form 58.3(3...) % rounded or truncated to at least 3 significant figures.<br/>But allow 0.58(3...) or 58(.3...) % oe rounded or truncated to at least 2 significant figures from correct working.</p> |

| Question | Answer         | Mark | Mark scheme   | Additional guidance |
|----------|----------------|------|---|---------------------|
| 2 (b)    | Yes, supported | C1   | <p>Yes with reason</p> <p><b>Acceptable examples</b><br/> the ratio of blue to red counters stays the same<br/> 10 : 2 is the same as 5: 1<br/> there are still 5 times as many blue as red<br/> the probability / fraction of getting a blue or red counter stays the same<br/> <math>\frac{10}{12} \times \frac{10}{12} \times \frac{10}{12} + \frac{2}{12} \times \frac{2}{12} \times \frac{2}{12} =</math> their answer to part (a)<br/> <math>\frac{10}{12} \times \frac{10}{12} \times \frac{10}{12} = \frac{125}{216}</math> or <math>\frac{2}{12} \times \frac{2}{12} \times \frac{2}{12} = \frac{1}{216}</math></p> <p><b>Not acceptable examples</b><br/> the probability / probabilities stay the same<br/> the total will double and the probability stays the same<br/> the fraction(s) are equivalent<br/> we do the same multiplication<br/> there are still the same number and still more blue counters than red counters<br/> No, ...</p> |                     |

| Question | Answer          | Mark         | Mark scheme   | Additional guidance   |
|----------|-----------------|--------------|---|---|
| 3 (a)    | Venn diagram    | C4           | fully correct Venn diagram  | <p>Ignore all entries except the region you are marking for each C mark</p> <p>Repeated digits in the diagram should be counted as 2 elements</p>                |
| (b)      | $\frac{47}{67}$ | M1<br><br>A1 | <p>(C3 6 or 7 of the 8 regions correct)</p> <p>(C2 4 or 5 of the 8 regions correct)</p> <p>(C1 2 or 3 of the 8 regions correct)</p> <p>M1<br/>for <math>\frac{47}{b}</math> where <math>b &gt; 47</math> or ft <math>\frac{"47"}{b}</math> where <math>b &gt; "47"</math></p> <p>or <math>\frac{a}{67}</math> where <math>0 &lt; a &lt; 67</math> or ft <math>\frac{a}{"67"}</math> where <math>0 &lt; a &lt; "67"</math></p> <p>A1<br/>for <math>\frac{47}{67}</math> oe or ft <math>\frac{"47"}{"67"}</math> oe</p> | <p>Need not be written in correct form at this stage eg could be a ratio 47 : 67</p> <p>"47" = "15" + "32"</p> <p>"67" = "9" + "11" + "32" + "15"</p> <p>Accept any equivalent fraction, decimal form 0.70(14..) or percentage form 70(.14...)%</p> |

| Question | Answer   | Mark                                       | Mark scheme   | Additional guidance  |
|----------|--|--|---|--|
| 4        | 160  | P1<br><br>P1<br><br>A1                     | <p>for process to find the number sold in November,<br/>eg <math>180 \div 150 \times 100</math> or <math>180 \div 1.5 (= 120)</math> oe</p> <p>or for <math>0.75 \times 1.5 (= 1.125)</math> oe or for <math>75 \times 1.5 (= 112.5)</math> oe</p> <p>for a process to find the number sold in October,<br/>eg "<math>120</math>" <math>\div 75 \times 100</math> oe eg "<math>120</math>" <math>\div 0.75</math><br/>or <math>180 \div "1.125"</math> oe eg <math>180 \div "112.5" \times 100</math><br/>or [value] <math>\div 0.75</math> oe</p> <p>cao</p> | [value] can be any value they believe to be the number of bikes sold in November or 180  |
| 5        | (a) Shown<br>(b) Shows re-arrangement<br>(c) 1.483 | C1<br><br>C1<br><br>M1<br><br>M1<br><br>A1 | <p>for showing values of <math>-5</math> and <math>10</math> leading to the conclusion</p> <p>for showing re-arrangement<br/>must see <math>2x^3 = 8 - x</math> or <math>x^3 = \frac{8-x}{2}</math> leading to <math>x = \sqrt[3]{\frac{8-x}{2}}</math></p> <p>for substitution to find <math>x_1</math> eg <math>\sqrt[3]{\frac{8-1.5}{2}} (= 1.48(1248034))</math></p> <p>for substitution to find <math>x_2</math> eg <math>\sqrt[3]{\frac{8-"1.48(1248034)"}{2}}</math><br/>(<math>= 1.482(671093)</math>)</p> <p>for awrt 1.483</p>                      | <p>Can work backwards<br/>No incorrect steps allowed</p> <p>Accept an accuracy of 2dp or more rounded or truncated for <math>x_1</math></p> <p>Accept an accuracy of 3dp or more rounded or truncated for <math>x_2</math></p> <p>For reference <math>x_3 = 1.482563195</math><br/>If correct answer is seen and then incorrectly rounded award full marks</p> |

| Question | Answer  | Mark                   | Mark scheme  | Additional guidance   |
|----------|---|------------------------|--|---|
| 6        | $\frac{-6}{x^2+1}$  | M1<br><br>M1<br><br>A1 | for method to find $fg(x)$ , eg $f\left(\frac{2x^2}{x^2+1}\right)$ or $3 \times \frac{2x^2}{x^2+1} - 6$<br><br>for complete method to write a correct expression for $fg(x)$ , as a single fraction<br>or as two fractions with a common denominator<br><br>eg $3 \times \frac{2x^2}{x^2+1} - \frac{6(x^2+1)}{x^2+1}$<br><br>for $\frac{-6}{x^2+1}$  | Condone sign errors   |
| 7        | $x = \frac{1}{3}, y = \frac{2}{3}$<br><br>$x = -\frac{1}{2}, y = \frac{3}{2}$ | P1<br><br>P1<br><br>P1 | for start to process, eg $\frac{y}{x^2} = 6$ oe or $y = 1 - x$ or $x = 1 - y$<br><br>for process to substitute a rearranged equation into a correct equation to form an equation in one variable<br><br>eg $\frac{1-x}{x^2} = 6$ oe or $\frac{y}{(1-y)^2} = 6$ oe<br><br>for process to remove all fractions and expand all brackets to form a correct standard simplified three term quadratic in any form of $ax^2 + bx + c (= 0)$ or $ay^2 + by + c (= 0)$<br>eg $6x^2 + x - 1 (= 0)$ or $6y^2 - 13y + 6 (= 0)$ | Allow $x = y - 1$ for $x = 1 - y$<br><br>Look out for signs reversed<br>The quadratic does not have to equal 0,<br>ie accept $6x^2 + x = 1$ |



| Question | Answer  | Mark   | Mark scheme  | Additional guidance   |
|----------|---|--|--|---|
| 9        | $-\frac{1}{7}$  | M1<br><br><br><br><br><br><br><br><br><br>A1 | for using a common denominator<br>eg $\frac{5x(3x+1) - 2x(3x-1)}{(3x-1)(3x+1)} (=1)$<br><b>or</b> for removing the fraction<br>eg $5x(3x+1) - 2x(3x-1) = (3x-1)(3x+1)$<br><br>M1 for correct methods to remove all fraction(s) <b>and</b> expand the brackets,<br>eg $15x^2 + 5x - 6x^2 + 2x = 9x^2 + 3x - 3x - 1$<br><br>A1 for $-\frac{1}{7}$ oe   | Allow one error in total in all the expansions (may be a sign error)<br><br><br><br><br><br><br><br><br><br>Allow $-0.14(2\dots)$ for $-\frac{1}{7}$  |
| 10       | $x = -\frac{6}{7}, y = \frac{32}{7}$<br>$x = 2, y = -4$ | M1<br><br><br><br><br><br><br><br><br><br>M1 | for substitution of a rearranged equation into a correct equation to form an equation in one variable.<br>eg $3x^2 + 2(2 - 3x)^2 = 44$ <b>or</b> $3\left(\frac{2-y}{3}\right)^2 + 2y^2 = 44$<br><br>M1 (dep on first M1) for multiplying out all brackets and collecting terms to form a simplified three term quadratic in any form of $ax^2 + bx + c (= 0)$ where at least 2 coefficients ( $a, b, c$ ) are correct<br><br>eg $21x^2 - 24x - 36 (= 0)$ <b>or</b> $7x^2 - 8x - 12 (= 0)$<br><b>or</b> $7y^2 - 4y - 128 (= 0)$ | Allow $(\pm 2 \pm 3x)$ for $(2 - 3x)$<br>(or $\left(\frac{\pm 2 \pm y}{3}\right)$ for $\left(\frac{2-y}{3}\right)$ )<br>Implied by a correct equation (simplified or unsimplified) in terms of $x$ or $y$<br>eg $3x^2 + 2(4 - 12x + 9x^2) = 44$<br>or $3x^2 + 8 - 24x + 18x^2 = 44$<br>or $21x^2 - 24x = 36$<br><br>Look out for signs reversed<br>The quadratic does not have to equal 0, ie accept $21x^2 - 24x = 36$ |

| Question | Answer | Mark | Mark scheme  | Additional guidance  |
|----------|--------|------|--|--|
| 10 contd |        | M1   | (dep on first M1) for a suitable method to solve <b>their</b> 3 term quadratic using any correct method,<br><br>for factorising, eg $(7x + 6)(x - 2)$ or $(7x + 6)(3x - 6)$ or $(21x + 18)(x - 2)$ or $(7y - 32)(y + 4)$<br><br>or correct use of formula,<br>eg $\frac{8 \pm \sqrt{(-8)^2 - 4 \times 7 \times -12}}{2 \times 7}$ or $\frac{4 \pm \sqrt{(-4)^2 - 4 \times 7 \times -128}}{2 \times 7}$<br>or completing the square | Can be implied by both $x$ values <b>or</b> both $y$ values correct (condone incorrect labelling) if the quadratic is correct<br>If using the quadratic formula (condone one sign error, omission of brackets around the $b$ in the $b^2 - 4ac$ and the fraction line not being under the $-$ in the $-b$ . Allow some simplification – as far as eg $\frac{8 \pm \sqrt{64 + 336}}{14}$<br><b>or</b> if factorising allow brackets which expand to give 2 out of 3 terms correct for their quadratic<br>Condone substitution into their $(\pm 2 \pm 3x)$ or $\left(\frac{\pm 2 \pm y}{3}\right)$<br>Allow $-0.85(7\dots)$ or $-0.86$ for $-\frac{6}{7}$<br>Allow $4.57(1\dots)$ for $\frac{32}{7}$<br>If values of $x$ or $y$ are incorrect then working must be shown<br><br>Accept as coordinates<br>Assume correct pairing unless clearly incorrect eg $\left(-\frac{6}{7}, -4\right), \left(2, \frac{32}{7}\right)$<br>Allow $-0.85(7\dots)$ or $-0.86$ for $-\frac{6}{7}$ |
|          |        | M1   | (dep on first M1) for substituting their 2 found values of $x$ or $y$ in a suitable equation<br>or (dep on first M1) for one correct pair of values following from a correct quadratic   |  |
|          |        | A1   | for $x = -\frac{6}{7}$ oe, $y = \frac{32}{7}$ oe <b>and</b> $x = 2, y = -4$  |  |

| Question | Answer | Mark | Mark scheme | Additional guidance  |
|----------|--------|------|-------------|--|
|          |        |      |             | <p>Allow 4.57(1...) for <math>\frac{32}{7}</math></p> <p>If an answer is shown in the range in working and then incorrectly rounded award full marks</p> <p>A correct answer with no supportive working gets 0 marks</p> |

