



Mathematics Marking Guidance

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This document is designed to assist with the marking of internal assessments. Whilst most of the guidance will also apply to the marking of external assessments, reference should be made to the detailed marking instructions which are published alongside every SQA question paper.

General comments

For each question, the marking instructions are generally in two sections:

- Generic Scheme – this indicates why each mark is awarded
- Illustrative Scheme – this covers methods which are commonly seen throughout the marking

In general, markers should use the Illustrative Scheme and only use the Generic Scheme where a candidate has used a method not covered in the Illustrative Scheme.

All markers should apply the following general marking principles throughout their marking for all levels. Use them in conjunction with the detailed marking instructions, which identify the key features required in candidates' responses:

- a. Always use positive marking. This means candidates accumulate marks for the demonstration of relevant skills, knowledge and understanding; marks are not deducted for errors or omissions.
- b. One mark is available for each •. There are no half marks.
- c. If a candidate's response contains an error, all working subsequent to this error must still be marked. Only award marks if the level of difficulty in their working is similar to the level of difficulty in the illustrative scheme.
- d. Only award full marks where the solution contains appropriate working. A correct answer with no working receives no mark, unless specifically mentioned in the marking instructions.
- e. Candidates may use any mathematically correct method to answer questions, except in cases where a particular method is specified or excluded.
- f. If an error is trivial, casual or insignificant, for example $6 \times 6 = 12$, candidates lose the opportunity to gain a mark, except for instances such as the second example in point g below.

- g. If a candidate makes a transcription error (question paper to script or within script), they lose the opportunity to gain the next process mark, for example

This is a transcription error.
The mark is not awarded.

$$x^2 + 5x + 7 = 9x + 4$$

$$x - 4x + 3 = 0$$

$$x = 1$$

This is no longer a solution of a quadratic equation. The mark is not awarded.

$$x = 1$$

The following example is an exception to the above

This error is not treated as a transcription error. The candidate deals with the intended quadratic equation. The candidate has been given benefit of the doubt and all marks awarded.

$$x^2 + 5x + 7 = 9x + 4$$

$$x - 4x + 3 = 0$$

$$(x - 3)(x - 1) = 0$$

$$x = 1 \text{ or } 3$$

h. Horizontal/vertical marking

If a question results in two pairs of solutions, apply the following technique, but only if indicated in the detailed marking instructions for the question.

Example:

• ⁵	• ⁶
• ⁵ $x = 2$	$x = -4$
• ⁶ $y = 5$	$y = -7$

Horizontal: •⁵ $x = 2$ and $x = -4$
 •⁶ $y = 5$ and $y = -7$

Vertical: •⁵ $x = 2$ and $y = 5$
 •⁶ $x = -4$ and $y = -7$

You must choose whichever method benefits the candidate, **not** a combination of both.

- i. In final answers, candidates should simplify numerical values as far as possible unless specifically mentioned in the detailed marking instruction. For example

$\frac{15}{12}$ must be simplified to $\frac{5}{4}$ or $1\frac{1}{4}$

$\frac{43}{1}$ must be simplified to 43

$\frac{15}{0.3}$ must be simplified to 50

$\frac{4/5}{3}$ must be simplified to $\frac{4}{15}$

$\sqrt{64}$ must be simplified to 8*

*The square root of perfect squares up to and including 144 must be known.

- j. Commonly Observed Responses (COR) are shown in the marking instructions to help mark common and/or non-routine solutions. CORs may also be used as a guide when marking similar non-routine candidate responses.
- k. Do not penalise candidates for any of the following, unless specifically mentioned in the detailed marking instructions:

- working subsequent to a correct answer
- correct working in the wrong part of a question
- legitimate variations in numerical answers/algebraic expressions, for example angles in degrees rounded to nearest degree
- omission of units
- bad form (bad form only becomes bad form if subsequent working is correct), for example

$(x^3 + 2x^2 + 3x + 2)(2x + 1)$ written as

$$(x^3 + 2x^2 + 3x + 2) \times 2x + 1$$

$$= 2x^4 + 5x^3 + 8x^2 + 7x + 2$$

gains full credit

- repeated error within a question, but not between questions or papers
- l. In any 'Show that...' question, where candidates have to arrive at a required result, the last mark is not awarded as a follow-through from a previous error, unless specified in the detailed marking instructions.
- m. You must check all working carefully, even where a fundamental misunderstanding is apparent early in a candidate's response. You may still be able to award marks later in the question so you must refer continually to the marking instructions. The appearance of the correct answer does not necessarily indicate that you can award all the available marks to a candidate.
- n. You should mark legible scored-out working that has not been replaced. However, if the scored-out working has been replaced, you must only mark the replacement working.

- o. If candidates make multiple attempts using the same strategy and do not identify their final answer, mark all attempts and award the lowest mark. If candidates try different valid strategies, apply the above rule to attempts within each strategy and then award the highest mark.

For example:

Strategy 1 attempt 1 is worth 3 marks.	Strategy 2 attempt 1 is worth 1 mark.
Strategy 1 attempt 2 is worth 4 marks.	Strategy 2 attempt 2 is worth 5 marks.
From the attempts using strategy 1, the resultant mark would be 3.	From the attempts using strategy 2, the resultant mark would be 1.

In this case, award 3 marks.

Marking Symbols



A tick should be used where a piece of working is correct and gains a mark.



At the point where an error occurs, the error should be underlined and a cross used to indicate where a mark has not been awarded. If no mark is lost the error should only be underlined, ie a cross is only used where a mark is not awarded.



A cross-tick should be used to indicate 'correct' working where a mark is awarded as a result of follow-through from an error.



A double cross-tick should be used to indicate correct working which is irrelevant or insufficient to score any marks. This should also be used for working which has been eased.



A tilde should be used to indicate a minor error which is not being penalised, eg bad form. This should be used where a candidate is given the benefit of the doubt.



A roof should be used to show that something is missing, such as part of a solution or a crucial step in the working.

Using these symbols will help markers and departments to maintain consistency in their marking.