

# Cambridge IGCSE and Lower Secondary Mathematics Command Words

Command words tell you what action to take in an exam question.

## Core Mathematics Command Words

| Command Word                | What It Means                                                                 | Expected Output / Common Mistake                                                                                                                                                   |
|-----------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Calculate / Work out</b> | Work out an answer from given facts or figures, typically using a calculator. | <b>Expected:</b> Show working and give a numerical answer.<br><b>Mistake:</b> Omitting working steps (losing method marks if the final number is wrong).                           |
| <b>Write down</b>           | Give an answer quickly without long calculations.                             | <b>Expected:</b> Short, direct answer.<br><b>Mistake:</b> Writing out unnecessary working that wastes time.                                                                        |
| <b>State</b>                | Express the value or fact clearly and briefly.                                | <b>Expected:</b> A direct, brief statement or single value.<br><b>Mistake:</b> Writing a long explanation.                                                                         |
| <b>Show (that)</b>          | Provide structured, logical evidence that proves a given result.              | <b>Expected:</b> Full, step-by-step mathematical proof leading to the target answer.<br><b>Mistake:</b> Just writing down the final answer without showing the intermediate steps. |
| <b>Find</b>                 | Obtain a solution to the problem through calculation or reading a graph.      | <b>Expected:</b> Final answer accompanied by working.<br><b>Mistake:</b> Guessing or providing no working.                                                                         |
| <b>Solve</b>                | Find the value or values that satisfy a given equation.                       | <b>Expected:</b> Solution for the variable (e.g., $x = 5$ ).<br><b>Mistake:</b> Omitting working or stopping partway through the equation.                                         |
| <b>Simplify</b>             | Reduce an expression or fraction to its easiest or shortest form.             | <b>Expected:</b> Fully collected terms or reduced fractions (e.g., $e + 7e = 8e$ ).<br><b>Mistake:</b> Incomplete simplification.                                                  |
| <b>Factorise</b>            | Write an expression as a product of its factors (use brackets).               | <b>Expected:</b> Bracketed factor form (e.g., pulling out a common factor or quadratic brackets).<br><b>Mistake:</b> Incorrect factors or missing common terms.                    |
| <b>Expand</b>               | Remove brackets by multiplying out.                                           | <b>Expected:</b> Expanded algebraic expression.<br><b>Mistake:</b> Sign errors or incomplete bracket expansion.                                                                    |

|                               |                                                                                      |                                                                                                                                                                                                                             |
|-------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construct</b>              | Make an accurate geometric drawing using tools like a ruler, compass, or protractor. | <b>Expected:</b> Precise, measured drawing.<br><b>Mistake:</b> Freehand drawing instead of a strict construction.                                                                                                           |
| <b>Sketch</b>                 | Make a simple, freehand drawing showing the key features and general shape.          | <b>Expected:</b> Rough graph or shape with labeled key points.<br><b>Mistake:</b> Spending too much time on exact plotting or detailed drawing.                                                                             |
| <b>Plot</b>                   | Mark individual points accurately on a grid or graph.                                | <b>Expected:</b> Precise points marked, optionally joined with a line or curve.<br><b>Mistake:</b> Using the wrong scale or misplacing points.                                                                              |
| <b>Estimate</b>               | Produce a rough or approximate value rather than an exact calculation.               | <b>Expected:</b> Rounded or approximated numbers based on sensible rounding.<br><b>Mistake:</b> Wasting time doing a full, exact calculation.                                                                               |
| <b>Give your answer to...</b> | Round the final value to a specific degree of accuracy.                              | <b>Expected:</b> Answer rounded to given decimal places or significant figures (e.g., 2 decimal places).<br><b>Mistake:</b> Rounding too early in the middle of a multi-step calculation or using the wrong rounding limit. |

## Marking Breakdown Tips (Cambridge Mathematics)

- **M Marks (Method):** Awarded for showing the correct mathematical method, even if your final number is wrong. Always write out your steps.
- **A Marks (Accuracy):** Awarded for the correct final answer, which often relies on getting the M mark first.
- **B Marks:** Independent marks awarded for the correct answer or statement regardless of how you got it.