

# COMMAND words

## Exact

An exact answer is one where numbers ARE NOT given in rounded form. The answer will often contain an irrational number such as  $\sqrt{3}$ ,  $e$  or  $\pi$  and these numbers should be given in that form. Rigorous (exact) working is expected in the answer to the question.

$$x = \frac{\sqrt{3}}{2}$$

## Hence

When a question uses the word 'hence' it is an indication that the next step should be based on what has gone before. You should start from this statement.

Where the phrase "Hence or otherwise" is used, this indicates that whilst the previous work could form the starting point of the solution, learners may be aware of, and could use, an equally valid alternate method.

## Show that

Show a result is true. Because you're given the result, your explanation has to be sufficiently detailed to cover every step of your working.



## You may use the result

When this phrase is used it indicates a given result you would not normally be expected to know, but which may be useful in answering the question.

## Prove

Provide a formal mathematical argument to demonstrate validity.



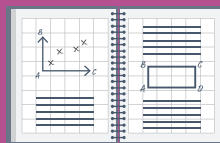
## Verify

Substitute given values to demonstrate the truth of a statement.



## Plot

Mark points accurately on the graph in the printed answer booklet.



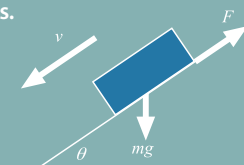
## Sketch

Draw a diagram, not necessarily to scale, showing the main features of a curve.



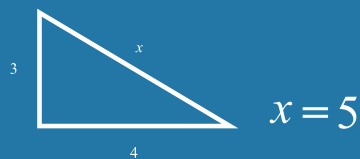
## Draw

Draw to an accuracy appropriate to the problem. You are being asked to make a sensible judgement about this.



## Give, state, write down

Neither working nor justification is required.



## Find, solve, calculate

While working may be necessary to answer the question, no justification needs to be given for any results found.



## Show detailed reasoning

Give a solution that leads to a conclusion showing a detailed and complete analytical method. Your solution should contain sufficient detail to allow the line of your argument to be followed. This is not a restriction on use of a calculator when tackling the question.

## Determine

Justification should be given for any results found, including working where appropriate.

$$y = x^3 - 2x^2 - 5x + 3, \quad x = 4$$
$$\frac{dy}{dx} = 3x^2 - 4x - 5$$
$$\left. \frac{dy}{dx} \right|_{x=4} = 3(4)^2 - 4(4) - 5 = 27$$