

Calculators: FAQ

Is there a list of calculators that are permissible in examinations?

Due to the extensive range of calculators available, it is difficult to put together a list of calculators that are allowed.

Calculators must not be designed or adapted to offer any of these facilities:

- language translators;
- symbolic algebra manipulation;
- symbolic differentiation or integration;
- communication with other machines or the internet;
- be borrowed from another candidate during an examination for any reason;
- have retrievable information stored in them.

This includes:

- databanks;
- dictionaries;
- mathematical formulae;
- text.

For a full list of the regulations, you can use this [link](#) to the JCQ regulations. The information on calculators is on page number 19 (page 23 of the pdf). Students should realise that advanced scientific calculators such as the FX991-EX and the Casio Graphic CG50 are allowed in all of our examinations, including GCSE and IGCSE.

Do you have a list of calculators that aren't allowed in examinations?

No. We cannot comment on any specific calculator due to their complex functionality and due to the wide variety of makes and models available on the market.

Can students take in more than one calculator into the exam?

There is nothing to prevent students taking more than one calculator into an examination. It is quite common for students to take a backup calculator into an examination. It is also common for students with a graphical calculator to also have a standard scientific calculator since some calculations are more efficient on the scientific calculator.

Are the rules for the use of calculators different for different qualifications, for example in International examinations?

The JCQ regulations apply to all the Pearson **GCE, GCSE and International Mathematics** examinations.

Are calculators allowed that can perform numerical integration and differentiation?

Yes, only SYMBOLIC algebraic manipulation and SYMBOLIC calculus are not allowed. Symbolic algebra and calculus means that the calculator will show the algebraic stages of the solution. These will often have an indication of being a C.A.S. (Calculator Algebraic System) on the case. Calculators that perform numerical integration and numerical differentiation, to only produce a numerical answer, are fine for examinations. An example of this would be to calculate the numerical answer, to a definite integral, without showing the algebraic stages. One way to check if a calculator is not allowed is to ask the calculator to integrate $3x^2$. If it returns x^3 then it is NOT allowed. It is your responsibility however to make sure that the calculator meets all the JCQ calculator requirements

Calculators such as the Sharp EL-W506-GY, the Texas Instrument TI30X-Pro and the Casio FX991-EX are allowed. They can carry out numerical integration and differentiation but not symbolic integration and differentiation.

Will my students lose marks for using some of the complex functionality available on scientific calculators?

The examiners are aware of the facilities on the calculators and if we wanted students NOT to use their calculator we would add a suitable form of wording. If an exam question contains key words such as “show that” and “prove that” then this indicates the need to show all the stages of their working rather than using functions available on their calculator.

Why are A Level probability questions worth more than one mark if they can carry it out on their calculator?

There is usually a mark for stating the probability model from the worded problem. This can be implied if the final answer is correct. As good practice, however, students should always aim to write down the probability model that they are using e.g. $X \sim B(10, 0.5)$.

Why have you included probability tables for A Level Mathematics?

Some calculators may not have the ability to calculate inverse probabilities and the tables are there to help students in that case. However, using a calculator for these questions is perfectly acceptable.

What functions does a calculator need for AS or A Level Mathematics and Further Mathematics?

Students for the new linear AS and A level Mathematics examinations are expected to have a calculator with both an iterative function and the ability to compute summary statistics and access probabilities from standard statistical distributions.

Students for the new linear Further Mathematics examinations are expected to have a calculator with an iterative function, the ability to compute probabilities from standard statistical distributions and the ability to perform calculations with matrices up to at least order 3×3 .

Calculators such as the Sharp EL-W506-GY, the Texas Instrument TI30X-Pro and the Casio FX991-EX have the correct functionality.

Are graphical calculators allowed in the examinations?

Graphical calculators are allowed for GCE, GCSE and International Qualifications examinations provided they don't have any of the facilities on the 'must not have' list in the JCQ regulations.

Most graphic calculators come with an "examination mode" which locks down key functions, such as any storage facility, to give you the confidence that students haven't stored material prior to the examination. Our advice is to refer to the manufacturer's website to see if a graphic calculator has an examination mode.

Some graphical calculators need to be connected to another, of the same type, to exit examination mode. For some, the examination mode will last for a specific period, such as 12 or 24 hours. It is important the calculator is in examination mode for the whole of the examination. Some centres ask students to demonstrate putting the calculator into examination mode just before the exam. Some calculators, such as the Casio CG50 have a coloured border while in examination mode. They also show an "R", at the top right which flashes for the first 15 minutes and slowly thereafter whilst in examination mode to give you the confidence that the examination mode will last for the next 12 hours.

Please note that, for some graphic calculators, pressing the reset button, on the rear of the calculator, will only reset the main settings and not clear any data, programmes or text stored in memories. There is usually a full reset function, available in the calculator menu system, that a student can use to help show that their calculator meets the regulations in terms of stored information. If a student has this ready on their display, before the start of the examination, then they can show an exam invigilator that they have wiped all the memories. You still need to be confident, however, that the calculator doesn't have any prohibited functions, such as algebraic manipulation.

Students should be allowed to use graphic calculators, that meet the JCQ regulations, even if they do not have an examination mode. To allow exams to proceed smoothly, we recommend that you contact your students to discuss any concerns that you may have surrounding calculators.

Are there any calculator discounts available?

Information can be found here:

<https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017/teaching-support/casio-calculators-discount.html>

Is the use of Geogebra allowed in A Level exams now that it has an exam mode?

Devices that can communicate with other devices, or the internet, are not allowed in exams. Therefore, tablets and phones with the Geogebra app are not currently allowed. As Geogebra is an external programme, or website, this would be prohibited under the current regulations. More information can be found on page 19 (pdf page 23) of the Joint Council for Qualifications (JCQ) booklet "Instructions for conducting examinations (1 September 2021 to 31 August 2022)". You can find it [here](#).