

# Graphics calculator list

## General Senior Syllabus external assessment

### Purpose

To provide teachers and students with an up-to-date description of the types of calculators that may and may not be used by students sitting a General Senior Syllabus summative external assessment that permits the use of a graphics calculator.

### Background

Summative external assessment items are developed on the basis that the type of calculator used should not advantage one student over another. Calculators with a computer algebra system (CAS), spellchecker, dictionary, thesaurus or translator features could:

- provide an advantage to students using them
- prohibit the proper testing of some subject matter or assessment objectives.

### Approved calculators

Calculators used by students in a summative external assessment must be handheld and solar or battery powered.

Below is a list of calculators approved for use in General Senior Syllabus summative external assessments that permit the use of a graphics calculator.

#### Approved graphics calculators

Brand	Models
Casio	CFX-9850GC Plus fx-9860G fx-9860GAU fx-9860GAU Plus fx-CG20AU fx-CG50AU
Hewlett-Packard (HP)	HP39Gii HP Prime (updated to the latest firmware in 'Exam Mode' with the correct features blocked)
Texas Instruments (TI)	TI-83 Plus TI-84 TI-84 Plus TI-84 Plus CE TI-84 Plus Silver Edition TI-84 Plus C Silver Edition TI-73 Explorer TI-Nspire CX TI-Nspire with touchpad TI-Nspire CX II TI-Nspire CX II CAS (updated to the latest firmware in 'Press to Test' with the correct features blocked)

## Calculators not permitted

Below is a list of calculators that are not approved for use in a General Senior Syllabus summative external assessment that permits the use of a graphics calculator.

### Graphics calculators NOT permitted

Brand	Models
Casio	ClassPad 300 ClassPad 330 ClassPad 330 Plus Algebra FX 2.0 (all versions) CFX-9970 (all versions) fx-CP400 (ClassPad II)
Hewlett-Packard (HP)	HP 38g (all versions) HP 40g HP 50g HP Prime (not in 'Exam Mode' with the correct features blocked)
Texas Instruments (TI)	TI-Nspire CX CAS TI-Nspire CAS with touchpad TI-89 Titanium Voyage 200 TI-Nspire CX II CAS (not in 'Press to Test' with the correct features blocked)

### Older models of calculators

Older models of calculators, including those listed as 'Approved', may have more limited features. Refer to the 'Other calculators' section below to see if a particular model meets the requirements. Review the calculator's user manual or contact the manufacturer for further advice about available features.

### Other calculators

Any calculator not listed above may be used as long as it meets the requirements listed below.

#### Features that are permitted

Calculators should be able to perform addition, subtraction, multiplication, division, square roots and powers. Graphics calculators also typically have access to the following features:

- drawing graphs with any viewing window; displaying table information; finding zeros, local minimum and maximums, and intersection points
- solving equations numerically, including system of linear equations
- determining a numerical derivative at a point
- determining a numerical definite integral
- determining statistical values, including normal and binomial distributions,  ${}^n P_r$ ,  ${}^n C_r$ , one- and two-variable statistics
- performing statistical calculations including regression
- performing matrix, vector and complex number operations.

### Features that are NOT permitted

Calculators must not allow access during the examination to the following features:

- language translation
- symbolic algebra manipulation
- symbolic differentiation or integration
- communication with other machines, students or the internet
- storing retrievable information, including databanks, dictionaries, mathematical formulas and text.

A calculator that has any of these features (inbuilt or downloaded) must be put into a test mode that prohibits access to these features during the examination. If the calculator cannot be put into a test mode that prohibits access to these features, a different calculator that meets the requirements must be used.

## More information

If you would like more information, please phone (07) 3864 0444 or email the Mathematics learning area at [Maths@qcaa.qld.edu.au](mailto:Maths@qcaa.qld.edu.au).