



SINGAPORE EXAMINATIONS AND ASSESSMENT BOARD

298 Jalan Bukit Ho Swee, Singapore 169565

<http://www.seab.gov.sg>

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To : Principals of Primary Schools, Secondary Schools, Full Schools, Junior Colleges and Millennia Institute

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GUIDELINES ON THE USE OF ELECTRONIC CALCULATORS IN NATIONAL EXAMINATIONS

1. Schools are to inform their pupils that the scientific calculators used in the PSLE Mathematics and Foundation Mathematics examinations should have the following minimum features:
 - (a) four arithmetic operations (+, −, ×, ÷) including the order of operations and use of brackets;
 - (b) fractional function which retains the fraction in the form 'a/b' and 'a b/c';
 - (c) square root ($\sqrt{\quad}$) and cube root ($\sqrt[3]{\quad}$) functions; and
 - (d) value of Pi (π).
2. The following guidelines are to be adhered to in the use of scientific calculators in national examinations. Schools are to impress upon their pupils of the following:
 - (a) The calculator must be silent, with a visual display only.
 - (b) The working condition of the calculator is the responsibility of the pupil and a fault in a calculator cannot be used as a reason for seeking special consideration for the user.
 - (c) Calculators must not be borrowed from other pupils in the course of the examination for any reason.
 - (d) External storage media, e.g. card, tape, and plug-in modules, must not be in the possession of pupils during the examination.
 - (e) No unauthorised materials, e.g. instructions leaflets, formulae printed on the lid or cover of a calculator or similar materials, must be in the possession of pupils during the examination (where the instructions cannot be removed they should be securely covered).
 - (f) No programmable calculators are allowed.
 - (g) No calculators with permanent features of a programmed kind are allowed, e.g. calculators capable of numerical integration, numerical differentiation, and/or expressing in irrational number form.
 - (h) No calculators with special communication features are allowed, e.g. calculators with the capability of remote communication via infra-red or blue-tooth with other machines.
 - (i) No calculators with capabilities for storing and displaying visual and verbal information are allowed.
3. Graphic calculators are allowed for use ONLY in subjects examined at H1, H2 and H3 Levels of the GCE A-Level Curriculum. Candidates are to note the following:
 - (a) No prepared programs may be taken into the examination room. Information (including text or formulae) and/or programs stored in the calculator's memory must be cleared before the examination.
 - (b) No calculators with built-in symbolic algebra manipulations, symbolic differentiation or integration are allowed.
4. The use of any calculator with unacceptable features or for retrieval of information/programs during the examinations is an infringement of the regulations.
5. The list of approved models of scientific and graphic calculators can be found in Annex A.
6. You may contact Mr Alwyn Pang at 6377 7647 or email him at alwyn_pang@seab.gov.sg if you need further clarification.

Lee Ah Huat
Deputy Director, Assessment & Research
Assessment & Research Division



LIST OF APPROVED SCIENTIFIC CALCULATORS

The following models of Scientific Calculators are suitable for :

- PSLE Mathematics and Foundation Mathematics Examinations
- GCE N(T), N(A), O and A-Level Examinations

AURORA

SC 550

FIAMO

SC 6 SC 20

CANON

F-715S

CASIO

FX 82AU FX 82MS FX 85MS FX 95MS FX 95 SG Plus FX 350MS
FX 820MS FX 992S

HEWLETT PACKARD

HP 8S HP 9S HP10S

HOSEKI

H-1030 H-1031

HUBBLE COMPUTING

SC-10B

REDSPOT COMPUTING

SC-10B SC-10C

SHARP

EL 509VM EL 509 W EL 509WM EL 509WS EL 546VA EL W531S

TEXAS INSTRUMENTS

TI 30XIIB TI 30XIIS TI 34 II

LIST OF APPROVED GRAPHIC CALCULATORS

The following models of Graphic Calculators are approved for use **ONLY** in subjects examined at H1, H2 and H3 Levels of the A-Level curriculum.

Note: All graphic calculators must be reset prior to any examination.

CASIO

CFX-9850GC PLUS FX-9860G FX-9860G slim

TEXAS INSTRUMENTS

TI-83 PLUS TI-84 PLUS TI-84 PLUS Silver Edition