CASIO fx-CG50: Tips and Tricks

Graph (Menu Option 5)

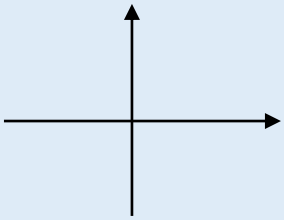
1a) Sketch $y = |2x - 5| - 3$ indicating the coordinates of any intersections with the coordinate axes, as well as the coordinates of the vertex.

- Axes – 'SCALE' for numbers
- 'FACTOR' zoom

OPTN

NUMERIC

Abs



G-Solv

ROOT | MIN | Y-ICEPT

b) Solve $|2x - 5| - 3 = \frac{1}{2}x$

G-Solv

INTSECT

2) Verify that the maximum point on the curve with equation $y = x - 2 + 2\sin x$, for $0 < x < \pi$ is $(\frac{2\pi}{3}, \frac{2\pi}{3} + \sqrt{3} - 2)$

SHIFT

SET UP MENU

Angle: Rad

G-Solv

MAX

3) Verify that the parametric curve with equations $x = 3t^3 - t, y = \frac{1}{t}, t \in \mathbb{R}$ has gradient $-\frac{1}{8}$ when $t = 1$

TYPE

Param

SHIFT

SET UP MENU

Derivative: On

Trace

4) Verify that $\int_0^{\pi} \sin^2 x \, dx = \frac{\pi}{2}$

TYPE

Y =

G-Solv

▷

$\int dx$

$\int dx$

Run-Matrix (Menu Option 1)

1) Verify that $\int_0^{\pi} (\sin^2 x + \sqrt{x}\,)\, dx = \frac{\pi}{2} + \frac{2\pi\sqrt{\pi}}{3}$

MATH

▷

∫ dx

2) Verify that for $y = x^3 - 2x^2$, the gradient when $x = \sqrt{2}$ is $6 - 4\sqrt{2}$

MATH

d/dx

3) Calculate $\sum_{r=2}^{11} 3(2)^r$

MATH

▷

Σ(

4) Given that $a = \sqrt{2}$, $b = \sqrt{2} + 1$, $c = \sqrt{2} - 1$, $d = 2\sqrt{2}$ calculate

→

ALPHA

A **B** etc.

i) $abc + abd + acd + bcd$
ii) $abcd$
iii) $a + b + c + d$

5) Solve $6\sin^2 x + \cos x = 5$ for $0° < x < 360°$

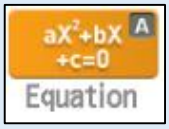
OPTN

CALC

SolveN

SolveN (equation, variable, lower, upper**)**
or
SolveN (equation**)**
Careful! May not give exact values…

Equation (Menu Option A)



1) Solve

$$5x - 2y = 5$$
$$3x + 4y = 8$$

SIMUL

2

2) Given that $V = A + Be^{-2t}$, and that when $t = 1, V = 30$ and when $t = 4, V = 2.5$, find the values of A and B

SIMUL

2

3) Solve $a^2 - 5a + 3 = 0$

POLY

2

4) Solve $\sin^2 x = 4\sin x - 1$

POLY

2

Statistics (Menu Option 2)

1) Given that $X \sim B(30, 0.4)$, find
   a) $P(X \leq 7)$
   b) $P(X < 17)$
   c) $P(X = 12)$
   d) $P(X \geq 4)$
   e) $P(12 \leq X < 25)$

DIST

BINOMIAL

Bcd

All probabilities can be found through c.d.

2) Given that $Y \sim N(120, 5^2)$, find a if

   a) $P(Y < a) = 0.2$

   b) $P(Y > a) = 0.35$

   c) Find the LQ and UQ

DIST

NORM

InvN

Tail: LEFT RIGHT CENTRAL

CASIO fx-991EX CLASSWIZ:
Tips and Tricks
Calculate (Menu Option 1)

1) Verify that $\int_0^{\pi} (\sin^2 x + \sqrt{x}\,)\, dx = \frac{\pi}{2} + \frac{2\pi\sqrt{\pi}}{3}$

Up arrow cycles through previous calculations

2) Verify that for $y = x^3 - 2x^2$, the gradient when $x = \sqrt{2}$ is $6 - 4\sqrt{2}$

3) Calculate $\sum_{r=2}^{11} 3(2)^r$

4) Given that $a = \sqrt{2}$, $b = \sqrt{2} + 1$, $c = \sqrt{2} - 1$, $d = 2\sqrt{2}$ calculate

STO

A **B** etc.

SHIFT

RECALL

SHIFT

RESET

2: Memory

$i)\ abc + abd + acd + bcd$

$ii)\ abcd$

$iii)\ a + b + c + d$

Equation/Func (Menu Option A)

1) Solve

$$5x - 2y = 5$$
$$3x + 4y = 8$$

1: Simul Equation

2

2) Given that $V = A + Be^{-2t}$, and that when $t = 1, V = 30$ and when $t = 4, V = 2.5$, find the values of A and B

1: Simul Equation

2

3) Solve $a^3 - 5a + 3 = 0$

2: Polynomial

3

4) Solve $\sin^2 x = 4 \sin x - 1$

2: Polynomial

2

5) Find the turning point of $f(x) = x^2 - 4x + 5$

2: Polynomial

2

Inequality (Menu Option B)

6) Solve $3y - y^2 + 4 \leq 0$

2

4: $ax^2+bx+c \leq 0$