GETTING STARTED WITH THE fx-83GT CW

Turning the calculator on:

To get an answer: EXE

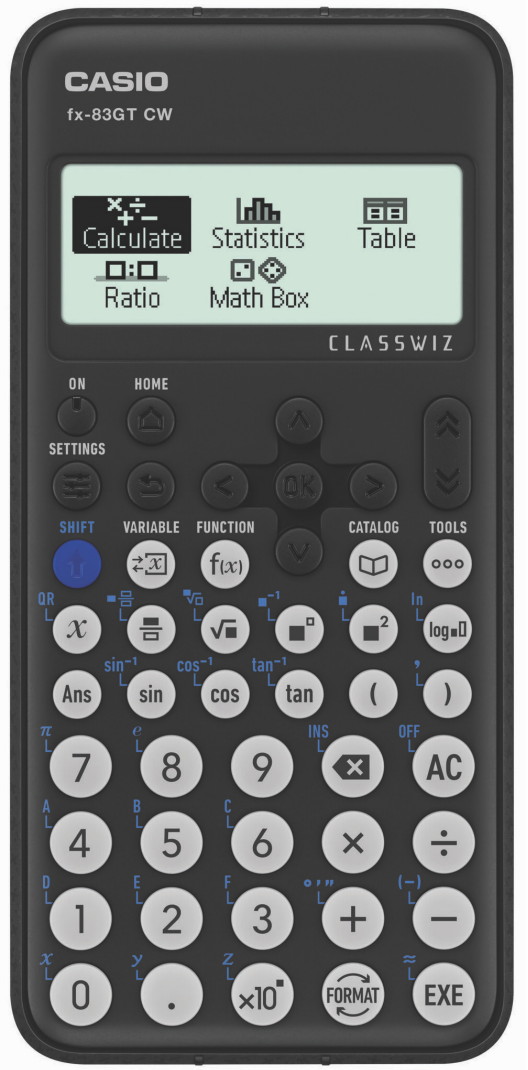
Clearing the display: AC

If you make a mistake:

Moving around:
Choosing a menu item: OK

To get operations in blue:
(no need to hold SHIFT down)

Typing in negative numbers:
always use ((−)), not −



Fractions: press first

You need to use the arrow keys to move around

Changing between fractions, mixed numbers, and decimals: FORMAT

Typing in a mixed number:

POWERS AND ROOTS

To find the square of a number, we press 

Complete the table:

x	12	21	13	31	14	41
x^2						

What do you notice about these pairs of square numbers?

Challenge: can you find a three digit number whose square is reversed when the digits are reversed?

Investigate the pattern: $11^2 =$

$111^2 =$

$1111^2 =$

$11111^2 =$

What do you think the next answer will be? Write your prediction here:

Now type in $111111^2 =$

What do you notice?

To find the cube of a number, we type the number then press $\blacksquare^{\square}$ then ③
Complete the table:

x	2	3	4	5	6	7	8	9
x^3								

Challenge: can you find two cube numbers that are also square numbers?

To do even higher powers, we use $\blacksquare^{\square}$

For example, for 2^5, we type ② $\blacksquare^{\square}$ ⑤

Complete the table:

x	2^4	2^5	2^6	2^7	2^8	2^9	2^{10}
Answer							

Challenge: What is the biggest power of 2 your calculator can work out?

FINDING RANDOM NUMBERS

 gives us RANINT# which means “random integer”.

To get a comma in between two numbers, we press 

If we want a random number between 1 and 6, like on a die, we type

Try it out by keeping a tally (𝍸) in the table. Is it really random?

1	
2	
3	
4	
5	
6	

ORDER OF OPERATIONS

Type in 2 + 3 x 4

Why doesn’t it give us the answer 20?

Try to make 10 and 11 by swapping the numbers around

If you use brackets as well, can you make 20 and 18?

Investigate in what order the calculator does brackets, powers and other calculations.

TARGET 32

We want to create the sequence 5, 8, 11, 14, …

Start by typing ⑤ EXE
This is the first term.

Now we want to add 3 each time.
Type Ans ＋ 3 EXE EXE EXE

Challenge: how many different ways can you make a sequence containing the number 32?
You are not allowed to have 32 as the first or second term!

Record your answers in the table.

Starting number	Operation
⑤	Ans ＋ 3

WHO HAS THE BIGGEST HEAD?

1. Get your friend to measure the circumference of your head in centimetres.

Write the circumference here:

Type it into your calculator and press EXE

2. To calculate the radius, divide by 2π.

Type Ans ÷ (2 ↑ 7) EXE

Write the radius here:

3. To calculate the volume, we use the formula

$$V = \frac{4}{3}\pi r^3$$

Type ▣ 4 ▽ 3 > ↑ 7 Ans ■□ 3 > EXE

Write the volume here. It is measured in cm^3:

Who has the biggest head?

INVESTIGATING SEVENTHS

You are going to use  to look at the decimal digits of fractions.
Type in each fraction using the  button.
If you press     , it will show it as a decimal.

Because sevenths are recurring decimals, the calculator only shows the repeating digits once, with dots over the first and last digits. eg. $\frac{1}{7} = 0.\dot{1}42857\dot{}$

Complete the table.

$\frac{1}{7}$	
$\frac{2}{7}$	
$\frac{3}{7}$	
$\frac{4}{7}$	
$\frac{5}{7}$	
$\frac{6}{7}$	

What do you notice about the recurring digits?

Another good denominator to try is 13. Can you find 2 different patterns?

LARGEST SUM AND PRODUCT

Using the digits 1, 2, 3, 4 and 5 what is the largest result you can find for each calculation?
What if you change your 5 digits?