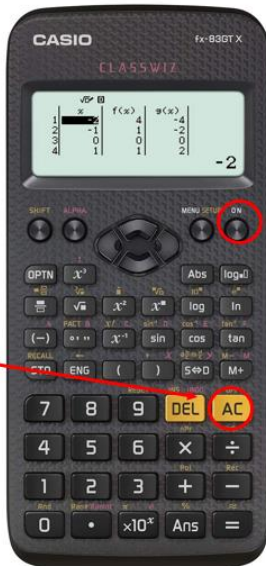


Getting to know your scientific calculator



Click this button to switch on your calculator

Click this button to clear all functions between calculations.

Firstly, you need to look after this calculator. It is going to help you get your GCSE's in year 11.

Write your name on the calculator and the case.

Remember to bring this to every maths.

Task 1 – Using the square key

Work out

$3^2 =$

$15^2 =$

$7^2 =$

$18.7^2 =$

$7.5^2 =$

True or false?

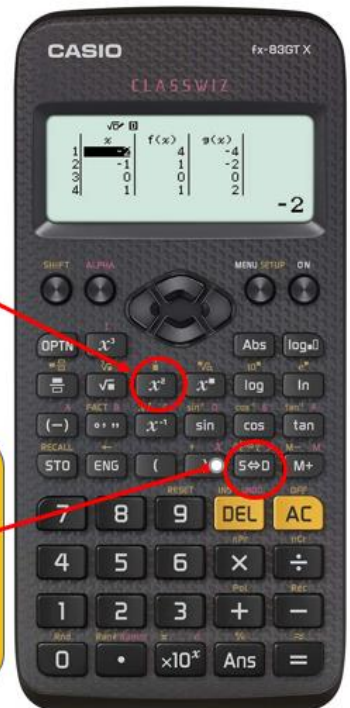
$7^2 + 2^3 = 49$

True or false?

$7^2 - 2^3 = 41$

Click this button, then press in the number you've been asked to square, then press =

If the answer is displayed as a fraction, click this button to change it to a decimal.



Task 2 – Using the cubed key

Work out

$3^3 =$

$15^3 =$

$7^3 =$

$18.7^3 =$

$7.5^3 =$

Click this button, then press in the number you've been asked to cube, then press =



Task 3 – Square root

Work out

a) $\sqrt{9}$

d) $\sqrt{121}$

g) $\sqrt{169}$

j) $\sqrt{4}$

m) $\sqrt{225}$

b) $\sqrt{64}$

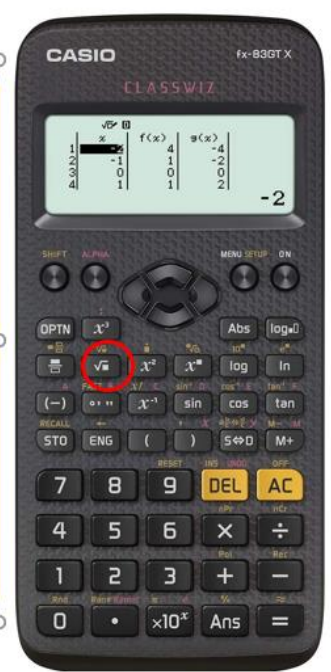
e) $\sqrt{81}$

h) $\sqrt{25}$

k) $\sqrt{100}$

n) $\sqrt{49}$

Click this button, then press in the number you've been asked to find the square root, then press =



Task 4 – A mixture

Use your calculator to work these out:

$$4^2 + \sqrt{81}$$

$$\sqrt{100} + 9^2 - 2^3$$

$$\sqrt{3^2 + 4^2}$$

Task 5 – converting fractions to decimals

Convert these:

$$\frac{4}{7} =$$

$$\frac{1}{8} =$$

$$\frac{4}{5} =$$

$$0.7 =$$

$$0.56 =$$

$$0.8 =$$

Does it work with mixed fractions too? Prove it?

This button gives you fractions.



This button converts between fractions and decimals

Task 6 – finding fractions of amounts

Choose your task below and use your fraction button to work these out.

$$\frac{1}{5} \text{ of } 80$$

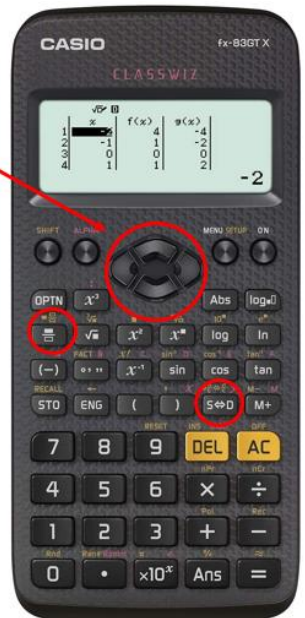
$$\frac{2}{9} \text{ of } 45$$

$$\frac{3}{7} \text{ of } 42$$

$$\frac{3}{10} \text{ of } 80$$

$$\frac{4}{9} \text{ of } 72$$

Use the cursor button to write in fractions of numbers.



CHALLENGE

Tasks

Choose which task to complete

Backchat



Calculators can make words as well as numbers. Turn it upside-down to read these.

1. $31 \times 7 =$

2. $3859 \times 2 =$

3. $1929 \times 4 =$

4. $179 \times 3 =$

5. $1911 \times 3 =$

6. $49612 + 5766 =$

7. $3651 + 1986 =$

8. $29611 + 8207 =$

9. $0.0123 + 0.0668 =$

10. $5632 + 2082 =$

11. $66666 + 10679 =$

12. $0.8968 - 0.1234 =$

13. $6311 + 1427 =$

14. $0.18 + 0.19 =$

15. $155699 + 223107 =$

16. $47681 - 12345 =$

17. $169 \times 2 =$

18. $0.45 - 0.43 =$

19. $103 \times 6 =$

20. $1377 \times 4 =$

The world is in our hands

Type 38076 into your calculator and turn it upside down.

Did you find the ?

How many different ways can you put the globe into your calculator?

How creative can you be?

| | | | |
|---|--|----|--|
| 1 | | 2 | |
| 3 | | 4 | |
| 5 | | 6 | |
| 7 | | 8 | |
| 9 | | 10 | |

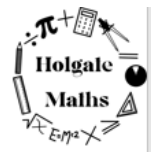
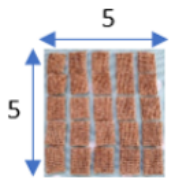
- Green** – using + and -
- Amber** – only using multiplication
- Amber +** – only multiplying even numbers
- Red** – using a mixture of operations and possibly brackets, squares and square roots

Squares and square roots

25 is a square number because you can express it as a number multiplied by itself (5×5 or 5^2). You can also arrange that number of objects so there are the same number of rows and columns.

5 is the square root of 25 written $\sqrt{25}$

6 squared is equal to 36 and the square root of 36 is 6



What about the square root of 30? Will it be 5.5?

Estimate, then check with the square root key on the calculator.



| Value | It's square root will be ... | | | |
|-------|------------------------------|-----------|---------------|---------|
| | Greater than | Less than | Approximately | Checked |
| 30 | | | | |
| 70 | 9 | 10 | | |
| | 20 | 21 | | |
| | | | | |
| | | | | |

Close to 1

Choose 4 digits from 1 to 9 and use them to create two fractions. Add them together.

Can you estimate if your answer is greater than or less than 1?

How close can you get to 1 by calculating?

$$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square} - \frac{\square}{\square} =$$

Can you get closer by rearranging the digits?

Can you get closer using subtraction?

If I chose 2, 6 and 8, what number would you give me to make it difficult to get close to 1?

| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 | 9 |

Are your fractions greater than or less than a half?

Can you use the calculator to convert your fractions to decimals?

