

## One Key!



### CALCULATOR CRUNCH

### DAY 7 One-key!



Ok, you can use all the operation keys but you can only choose one number key to use in this activity. In this activity 17 is changed to 1 only using the digit

$$\begin{aligned} 17 \times 4 &= 68 \\ 68 - 4 &= 64 \\ 64 \div 4 &= 16 \\ 16 \div 4 &= 4 \\ 4 \div 4 &= 1 \end{aligned}$$

Keys allowed:



- Can you reduce any other numbers to 1 just using the digit 4? What do you notice?
- What is the smallest number of key presses you can use?
- Could you use just  or  to change 17 to 1?
- You can use the number twice in the calculation e.g. 55

### Aim of the activity

This activity is all about transforming numbers into 1.

The aim is to use just one number key as the operator in all the calculations to end up with an answer of 1. You can use all the operation keys.

In the example we have chosen

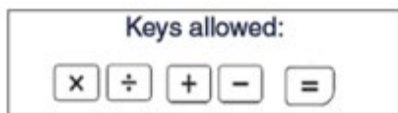
the number to use in all the calculations and used a mixture of operations to reduce the starting number of 17 to 1.

$$\begin{aligned} 17 \times 4 &= 68 \\ 68 - 4 &= 64 \\ 64 \div 4 &= 16 \\ 16 \div 4 &= 4 \\ 4 \div 4 &= 1 \end{aligned}$$

Can you do the same to 17 using just the  or  keys?

What about choosing another starting number?

## Using a calculator



All the operation keys are allowed but only one other number key each time can be used to operate with. You can use it as a tens and ones digit so if you have chosen to use  you can also use

## Challenges

What is the smallest number of key presses you can use in each case?  
How efficient can you be?

Is there anything you notice when you look at the calculations you have used?