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## Maths Investigation - Four 4s

Find each consecutive number starting from 1 using four 4s. You **must** use four 4s, no more, no less, to calculate each number.

You can use any maths operation (+ -  $\times$  and  $\div$ ) You could also use: -

- $4^2$  (4 squared = 16),
- $4^3$  (4 cubed = 64),
- $\sqrt{4}$  (square root of 4 = 2),
- $4!$  (4 factorial =  $4 \times 3 \times 2 \times 1 = 24$ )

### Examples

$$1 = (4 \div 4) \times (4 \div 4)$$

$$2 = (4 \div 4) + (4 \div 4)$$

$$3 = (4 + 4 + 4) \div 4$$

Brackets show that step of the calculation needs to be completed first.

- Can you calculate **all** the numbers up to 10? Up to 20? Even higher?
- What is the highest number you can reach, calculating all the consecutive numbers before it?

Some numbers are easier to calculate than others.

GOOD LUCK!

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