

Division: standard method

There are lots of different ways of dividing numbers.

A division calculation can be written in lots of different ways.

These all mean 84 **divided by** 4.

$$\begin{array}{r} 84 \\ \hline 4 \overline{)84} \\ \hline \end{array}$$

You can also use different methods for division. This is the **standard method**. It might seem familiar because you may have been taught it in school.

Have a **read through** these examples and then **try them yourself**. The best way to find out which method you prefer is to have a go.

Example 1: What is $84 \div 4$?

Step 1: write down the calculation as follows:

$$4 \overline{)84}$$

Step 2: to work out the answer **divide 4 into 84 one digit at a time**.

Put the results of each division on top of the line: $8 \div 4 = 2$ $4 \div 4 = 1$

$$\begin{array}{r} 21 \\ \hline 4 \overline{)84} \\ \hline \end{array}$$

But what happens if the numbers don't divide exactly?

Example 2: What is $75 \div 6$?

Step 1: write down the calculation as follows:

$$6 \overline{)75}$$

Step 2: to work out the answer **divide 6 into 75 one digit at a time**.

Put the results of each division on top of the line: $7 \div 6 = 1 \text{ r } 1$

Carry the remainder 1 over to the next digit.

$$\begin{array}{r} 1 \\ \hline 6 \overline{)7^15} \\ \hline \end{array}$$

Step 3: $15 \div 6 = 2 \text{ r } 3$

Put a decimal point after the 2 and 5 and a zero in the tenths column. Carry the remainder 3 over to the tenths column.

$$\begin{array}{r} 12 \\ \hline 6 \overline{)7^15^30} \\ \hline \end{array}$$

Step 4: $30 \div 6 = 5$

$$\begin{array}{r} 12.5 \\ \hline 6 \overline{)7^15^30} \\ \hline \end{array}$$

Step 5: interpret the remainder.

Calculate that $12 \times 6 = 72$. To find the remainder $75 - 72 = 3$. The remainder 0.5 is 3.

Answer: $75 \div 6 = 12 \text{ r } 3$ or **12.5**