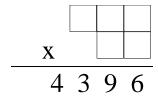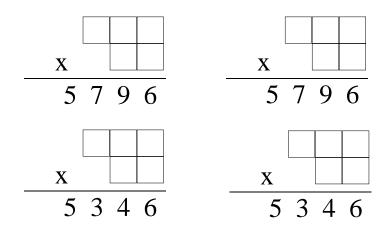Some 4 digit numbers can be written as the product of a 3 digit number and a 2 digit number using the digits 1 to 9 each once and only once.

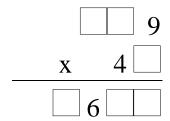The number 4396 can be written as just such a product. Can you find the factors?

$$\begin{array}{r} \square\square\square \\ \times\ \ \square\square \\ \hline 4\ 3\ 9\ 6 \end{array}$$

Maths is full of surprises! The number 5796 can be written as a product like this in two **different** ways, and so can the number 5346.
Can you find these four funny factorisations?

$$\begin{array}{r} \square\square\square \\ \times\ \ \square\square \\ \hline 5\ 7\ 9\ 6 \end{array} \qquad \begin{array}{r} \square\square\square \\ \times\ \ \square\square \\ \hline 5\ 7\ 9\ 6 \end{array}$$

$$\begin{array}{r} \square\square\square \\ \times\ \ \square\square \\ \hline 5\ 3\ 4\ 6 \end{array} \qquad \begin{array}{r} \square\square\square \\ \times\ \ \square\square \\ \hline 5\ 3\ 4\ 6 \end{array}$$

Here is another puzzle, again you must use the digits 1 to 9 once, but only once, in the boxes to complete this multiplication.

$$\begin{array}{r} \square\square\ 9 \\ \times\ \ 4\ \square \\ \hline \square\ 6\ \square\square \end{array}$$

This gives six funny factorisations, and there is one more. You might like to write a computer program to find all seven funny factorisations, or you might come up with a different method.