



## 16<sup>TH</sup> CENTURY ARITHMETIC

Robert Recorde, who was born in Tenby, South Wales, about 1510, wrote an arithmetic book called *The Ground of Arts* in 1543

### MULTIPLICATION

**I thynke befte to thewe you fyrfte the arte of multiplying digettes....And as for the fmall digettes under 5, it were but folly to teach any rule, feyng thei are fo easy, yt every child can doo it.**

He expected everyone to know the tables up to 5, but gave this method for larger numbers.

For example, to find  $7 \times 9$

$$\begin{array}{r} 7 \quad 3 \\ \times \quad \times \\ \hline 9 \quad 1 \\ \hline 6 \quad 3 \end{array}$$

Write down the numbers, 7 and 9, one above the other. Subtract each number from 10, and write the differences alongside.

Here write down the product  $3 \times 1$

Work out either  $7 - 1$  or  $9 - 3$  and record the answer here.

**NOW work out  $8 \times 7$  and  $6 \times 8$  in the same way**

$$\begin{array}{r} 8 \quad \_ \\ \times \quad \times \\ \hline 7 \quad \_ \\ \hline \end{array}$$

$$\begin{array}{r} 6 \quad \_ \\ \times \quad \times \\ \hline 8 \quad \_ \\ \hline \end{array}$$



# Will this method work for numbers bigger than 10?

Try  $13 \times 12$

$$13 \quad -3$$

$$10 - 13 = -3$$

$$\underline{12} \quad -2$$

$$10 - 12 = -2$$

$$12 - -3 = ?$$

$$-3 \times -2 = ?$$

Try these

$$15 \quad \times$$

$$11 \quad \times$$

$$14 \quad \times$$

$$\underline{12}$$

$$\underline{17}$$

$$\underline{13}$$

$$24 \quad \times$$

$$15 \quad \times$$

$$18 \quad \times$$

$$\underline{16}$$

$$\underline{22}$$

$$\underline{18}$$

Experiment with different pairs of numbers. Does the method always work?  
Try to prove that it works by using  $x$  and  $y$  as the numbers.

