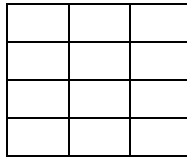


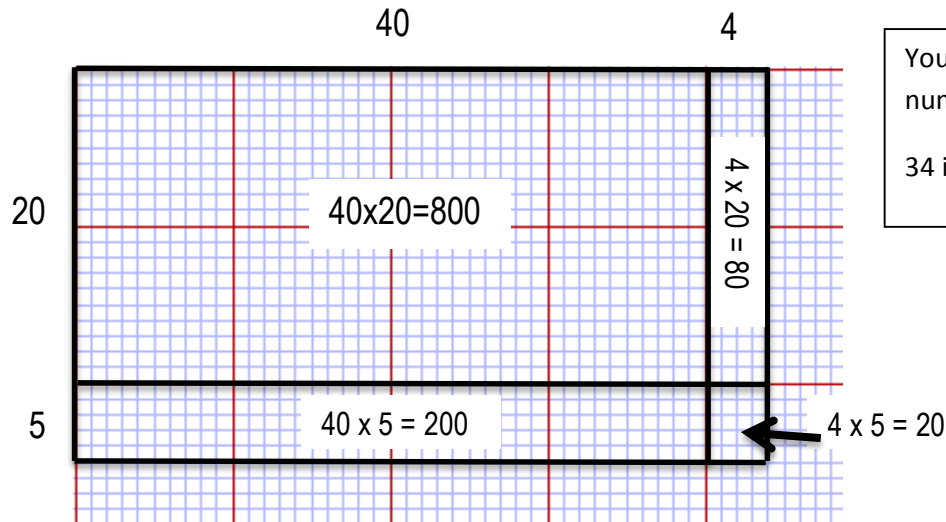
Multiplication of Larger Numbers

Multiplication is calculating the area of a region and we can draw a grid to represent the area. Eg. 3×4 can be drawn like this:



3×4 is 12

This is the same with larger numbers. If we wanted to know what 44×25 is we can draw a grid to represent what we are trying to figure out:



You can decompose each number:

34 is $30 + 4$ and 25 is $20 + 5$

We can then add up each of the grid sections ($800 + 80 + 200 + 20$) to get the answer to 44×25 . This can be done several ways and most can be done mentally to get the answer of 1100. We start out by drawing grids to scale then progress to just making a grid that is a way to organize our data like this:

	40	4
20	800	80
5	200	20

This could then eventually look like this:

$$\begin{array}{r}
 44 \\
 \times 25 \\
 \hline
 20 \quad (5 \times 4) \\
 200 \quad (5 \times 20) \\
 80 \quad (20 \times 4) \\
 + 800 \quad (20 \times 40) \\
 \hline
 1100
 \end{array}$$

The "grid method" can be used for any size of number: eg $108 \times 34 = 3672$

	100	8
30	3000	240
4	400	32

