

# Long multiplication

This is the most efficient method for multiplying. You should work up to this, making sure you understand what you are doing!

## Step 1

To work out  $34 \times 28$ :

$$\begin{array}{r} 34 \\ 28 \times \\ \hline 2 \\ 3 \end{array}$$

$4 \times 8 = 32$

## Step 2

$$\begin{array}{r} 34 \\ 28 \times \\ \hline 278 \\ 23 \end{array}$$

$3 \times 8 = 24$

$4 + 3 = 7$   
Don't forget to add the 3 we carried last time.

## Step 3

$$\begin{array}{r} 34 \\ 28 \times \\ \hline 278 \\ 0 \end{array}$$

Move to the next row.  
Add a zero because we are now multiplying the tens digit,

## Step 6

Finally, add columns

$$\begin{array}{r} 34 \\ 28 \times \\ \hline 278 \\ 680 \\ \hline 958 \\ 1 \end{array}$$

$34 \times 28 = 958$

## Step 5

$$\begin{array}{r} 34 \\ 28 \times \\ \hline 278 \\ 680 \end{array}$$

$3 \times 2 = 6$

## Step 4

$$\begin{array}{r} 34 \\ 28 \times \\ \hline 278 \\ 80 \end{array}$$

$2 \times 4 = 8$