Long Multiplication Walkthrough Worksheet

The trick to long multiplication is to pick the method you prefer and practise, practise, practise!

Let's take the example of 312 × 57.

The Grid Method

Draw your grid and split the numbers into its parts (e.g. 300, 10 and 2).

Then, multiply each pair of numbers before adding each product together.

×	**300**	**10**	**2**
50	15 000	500	100
7	2100	70	14

→

15 000
2 100
500
100
70
+ 14
17 784

The Column Method

This is much like the column method for short multiplication. However, you need to remember to add the extra zeros when you move onto the second and third rows.

```
  3 1 2
×   5 7
-------
  2 1 8 4
1 5 6 0 0
---------
1 7 7 8 4
```

Napier's Bones

This unusual method is similar to the grid method but uses diagonal lines to split up the digits.

	3	**1**	**2**	**×**
	1 / 5	0 / 5	1 / 0	**5**
1				
	2 / 1	0 / 7	1 / 4	**7**
7				
	7	**8**	**4**	

Those numbers around the edge give you the answer!

Your Turn

1. 45 × 12

2. 73 × 56

3. 54 × 62

4. 827 × 41

5. 13 × 794

6. In a class of 27 students, each student submits 14 pieces of homework. How many pieces of homework are submitted altogether?

7. A cake weighs 254 grams. Calculate the total mass of 15 of the same cake.