

Long Multiplication

Multiplying by a Two-Digit Number

$$154 \times 26$$

- 1** Write the numbers above each other in the correct columns.

$$\begin{array}{r} 154 \\ \times 26 \\ \hline \end{array}$$

- 2** First, multiply the ones in the three-digit number by the ones in the two-digit number.

$$4 \text{ ones} \times 6 \text{ ones} = 24 \text{ ones} = 2 \text{ tens and } 4 \text{ ones}$$

Write 4 in the answer section and regroup the 2 tens by writing 2 above the tens column.

$$\begin{array}{r} 2 \\ 154 \\ \times 26 \\ \hline 4 \end{array}$$

- 3** Next, multiply the tens in the three-digit numbers by the ones digits in the two-digit number and add any regrouped tens.

$$5 \text{ tens} \times 6 = 30 \text{ tens} + 2 \text{ tens} = 32 \text{ tens} = 3 \text{ hundreds and } 2 \text{ tens}$$

Write 2 in the answer section and regroup the 3 hundreds by writing 3 above the hundreds column.

$$\begin{array}{r} 32 \\ 154 \\ \times 26 \\ \hline 24 \end{array}$$

- 4** Finally, multiply the hundreds in the three-digit numbers by the ones digits in the two-digit number and add any regrouped hundreds.

$$1 \text{ hundred} \times 6 = 6 \text{ hundreds} + 3 \text{ hundreds} = 9 \text{ hundreds}$$

$$\begin{array}{r} 32 \\ 154 \\ \times 26 \\ \hline 924 \end{array}$$

- 5** Cross out any previous regroupings.

In the next section, multiply the ones in the three-digit number by the tens in the two-digit number

Because the calculation involves multiplying by 20, a zero needs to be placed in the right-hand column as a place holder.

$$4 \text{ ones} \times 2 \text{ tens} = 8 \text{ tens}$$

Write 8 in the answer section.

$$\begin{array}{r} \cancel{3} \cancel{2} \\ 154 \\ \times 26 \\ \hline 924 \\ 80 \end{array}$$

- 7** Multiply the hundreds in the three-digit number by the tens in the two-digit number and add any regrouped thousands.

$$1 \text{ hundred} \times 2 \text{ tens} = 2 \text{ thousands} + 1 \text{ thousand} = 3 \text{ thousands}$$

Write 3 in the answer section.

$$\begin{array}{r} \cancel{1} \cancel{3} \cancel{2} \\ 154 \\ \times 26 \\ \hline 924 \\ 3080 \end{array}$$

- 6** Multiply the tens in the three-digit number by the tens in the two-digit number and add any regrouped hundreds.

$$5 \text{ tens} \times 2 \text{ tens} = 1 \text{ thousand}$$

Write 0 in the answer section and regroup the 1 thousands by writing a 1 above the thousands column.

$$\begin{array}{r} \cancel{1} \cancel{3} \cancel{2} \\ 154 \\ \times 26 \\ \hline 924 \\ 3080 \\ 080 \end{array}$$

- 8** Combine the totals using regrouping if required.

9 $154 \times 26 = 4004$

$$\begin{array}{r} \cancel{1} \cancel{3} \cancel{2} \\ 154 \\ \times 26 \\ \hline 924 \\ 3080 \\ 4004 \\ 11 \end{array}$$

Short Division

Dividing by a One-Digit Number

$$84 \div 6$$

1

Partition 84 into tens and ones.

Work out how many 6s divide into 80 so that the answer is a multiple of 10.

In this case, the highest multiple of 10 divisible by 6 is 60.

Partition 84 into 60 and 24 then divide each number by 6.

Combine the totals.

2

Combine the totals.

$$\begin{array}{r} 10 + 4 \\ 6 \overline{) 60 + 24} \end{array}$$

3

This can be shortened to:

$$\begin{array}{r} 14 \\ 6 \overline{) 84} \end{array}$$