

## Step by step instruction of how to multiply a 2 digit decimal number by a 2 digit decimal number.

### Step one:

Set digits out correctly, lining numbers and decimal points up like this:

$$\begin{array}{r} 2.3 \\ \times 1.4 \\ \hline \end{array}$$

### Step 2:

Multiply the 4 on the bottom row by 3 on the top (unit X unit). This gives us 12, so we place the 2 underneath the units column and carry the 1 like this:

$$\begin{array}{r} 2.3 \\ \times 1.4 \\ \hline 2 \end{array}$$

### Step 3:

Multiply the 4 at the bottom by the 2 on the top (unit X ten). This gives us 8, but remember to add the 1 on that we had carried over, so that equals 9 which we write in the tens column.

$$\begin{array}{r} 2.3 \\ \times 1.4 \\ \hline 92 \end{array}$$

### Step 5:

Now we must add a ZERO underneath the units column as we are about to multiply the tens.

$$\begin{array}{r} 2.3 \\ \times 1.4 \\ \hline 920 \end{array}$$

### Step 6:

Now we need to multiply the tens on the bottom row by each digit on the top row (tens X unit). So first we multiply 1 in the tens column on the bottom row by the 3 on the top row, which makes 3 so we add this under the 9 in the tens column to show 30

$$\begin{array}{r} 2.3 \\ \times 1.4 \\ \hline 920 \\ 30 \end{array}$$

**Step 7:**

For the final multiplication we multiply the **1** in the bottom row of tens by the **2** in the top row of tens (tens X tens), this gives us **2** so we place it beside the last digit (this show us that it actually makes **200**)

$$\begin{array}{r}
 2.3 \\
 \times 1.4 \\
 \hline
 92 \\
 230 \\
 \hline
 \end{array}$$

**Step 8:**

Nearly there - now we add the numbers together to create the total of **322**.

$$\begin{array}{r}
 2.3 \\
 \times 1.4 \\
 \hline
 92 \\
 230 \\
 \hline
 322 \\
 \hline
 \end{array}$$

**Step 9:**

Finally we count the number of places a the units where the decimals are. In this case it is 2 places as there is one after the 3 and one after the 4, so we count the number of these places in our answer and insert the decimal there. e.g

$$\begin{array}{r}
 2.3 \\
 \times 1.4 \\
 \hline
 92 \\
 230 \\
 \hline
 3.22 \\
 \hline
 \end{array}$$

Now we have a sensible answer because we know that  $2 \times 1.5$  would equal 3 and this is close to our answer.

Well done, now remember that practice makes perfect!