

Multiplying Decimals

When you **add**, *subtract* or **divide** decimals...

You "line up the dots"

Line up the
decimal points

$$\begin{array}{r} 22.3 \\ + 34.1 \\ \hline 56.4 \end{array}$$

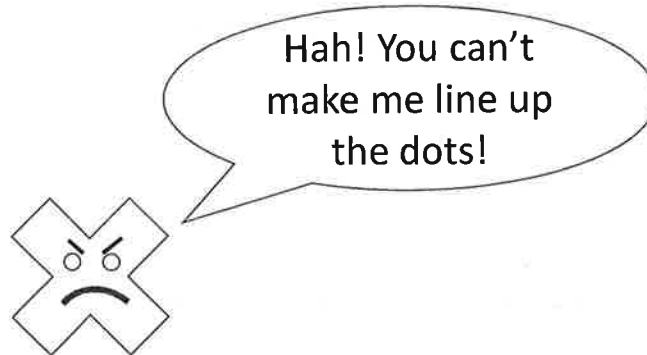
Line up the
decimal points

$$\begin{array}{r} 4.321 \\ - 4.1 \\ \hline 0.221 \end{array}$$

$$\begin{array}{r} 3.8 \\ 2 \overline{) 7.6} \\ \underline{-6} \\ 16 \end{array}$$

But **multiplying** decimals...

Breaks the rules!



Multiplying Decimals Video

- [Video](#)

Traditional Method

REMEMBER?

$$\begin{array}{r}
 415 \\
 \times 21 \\
 \hline
 415 \\
 8300 \\
 \hline
 8715
 \end{array}$$

Traditional Method

$$\begin{array}{r}
 4.15 \\
 \times 2.1 \\
 \hline
 415 \\
 + 8300 \\
 \hline
 8715
 \end{array}$$

move the decimal 3 spaces to the left in your answer!

Answer: 8.715

Traditional Method

$$\begin{array}{r}
 1.2 \\
 \times \quad 5 \\
 \hline
 6.0
 \end{array}$$

An arrow points from the decimal point in 1.2 to the right, with the text "move decimal 1 space".
 A bracket is drawn under the 6 and 0 in the product, with an arrow pointing to the text "answer: 6.0" which is enclosed in a hand-drawn box.

Traditional Method

$$\begin{array}{r}
 5.1 \\
 \times 0.9 \\
 \hline
 459 \\
 + 000 \\
 \hline
 459
 \end{array}$$

An arrow points from the decimal point in 5.1 to the right, with the text "move the decimal 2 spaces".
 A bracket is drawn under the 459 in the product, with an arrow pointing to the text "Answer: 4.59" which is enclosed in a hand-drawn box.

Traditional Method

$$\begin{array}{r}
 \begin{array}{c} 21 \\ 104.2 \end{array} \\
 \times \begin{array}{c} 0.17 \end{array} \\
 \hline
 7294 \\
 10420 \\
 + 000000 \\
 \hline
 17714
 \end{array}$$

3 spaces

Answer: 17.714

Traditional Method

$$\begin{array}{r}
 \begin{array}{c} 1 \\ 3.02 \end{array} \\
 \times \begin{array}{c} 1.5 \end{array} \\
 \hline
 150 \\
 + 3020 \\
 \hline
 4530
 \end{array}$$

3 spaces

Answer: 4.530

Traditional Method

$$\begin{array}{r}
 0.4 \\
 \times 0.2 \\
 \hline
 08 \\
 + 000 \\
 \hline
 008
 \end{array}$$

2 spaces

Answer: 0.08

You Try!

$$\bullet 1.25 \times 4.2$$

$$\begin{array}{r}
 1.25 \\
 \times 4.2 \\
 \hline
 250 \\
 5000 \\
 \hline
 5.250
 \end{array}$$

$$\bullet 135.3 \times 8$$

$$\begin{array}{r}
 135.3 \\
 \times 8 \\
 \hline
 1082.4
 \end{array}$$

$$\bullet 64.16 \times 2.2$$

$$\begin{array}{r}
 64.16 \\
 \times 2.2 \\
 \hline
 12832 \\
 + 128320 \\
 \hline
 141.152
 \end{array}$$