20: 2.3 x 10 = 2.30? 20.3?

Everything in mathematics is done for a reason – most of the time. But don’t expect teachers to obey silly rules like this – they are strictly for the likes of you.

23 x 10 = 230 because 23 means 20 + 3, and the 10 multiplies everything in the 23, i.e. both the 20 and the 3, gives 200 (10 x 20) and 30 (10 x 3) i.e. 230.

It is the same with 2.3 x 10: 2.3 means 2 + 0.3. Here, too, the 10 multiplies both the 2 and the 0.3, giving 20 (10 x 2) and 3 (10 x 0.3), namely, 23.

So if you want to estimate a multiplication there are many ways to do it. Here are some ‘guesstimates’ for 28 x 49:

\[
28 \times 49 = 28 \times (50-1) = 28 \times 50 - 28 \times 1 = 14 \times 100 - 28 = 1400 - 28 = 1372
\]

\[
28 \times 49 = (30 - 2) \times 49 = 30 \times 49 - 2 \times 49 = 3 \times 490 - 98 = 1372
\]

or even

\[
28 \times 49 \approx 30 \times 50 = 1500 \ (\approx \text{stands for ‘approximately}).
\]

Can you easily see whether the accurate answer is larger or smaller than the 1500?