Lesson #7: Multiplying and Dividing Decimals

**Remember rules for Multiplication and Division of Integers:

- Positive x Positive = Positive
- Negative x Negative = Positive
- Positive x Negative = Negative
- Negative x Positive = Negative

- Positive ÷ Positive = Positive
- Negative ÷ Negative = Positive
- Positive ÷ Negative = Negative
- Negative ÷ Positive = Negative

In other words: if the signs are the same the product or quotient will be positive; if the signs are different the product or quotient will be negative.

Multiplication with Decimals:

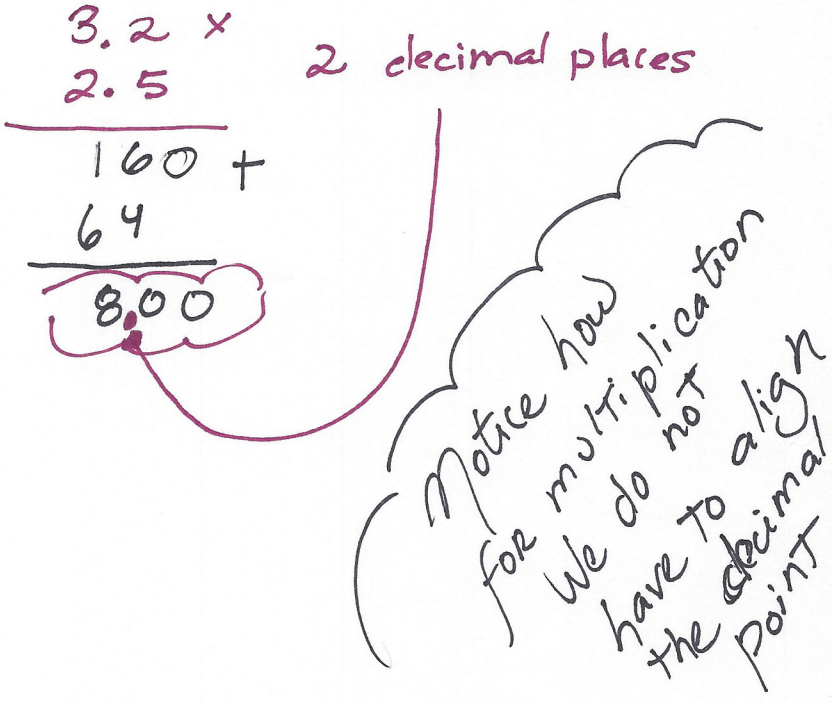
When multiplying decimals, multiply them as you would whole numbers (ignore the decimal place). Then count the **total number of decimal places** in both multipliers (the numbers you are multiplying); this number is the **total number of decimal places in the product.**

Ex) a) Multiply 3.2 × 2.5

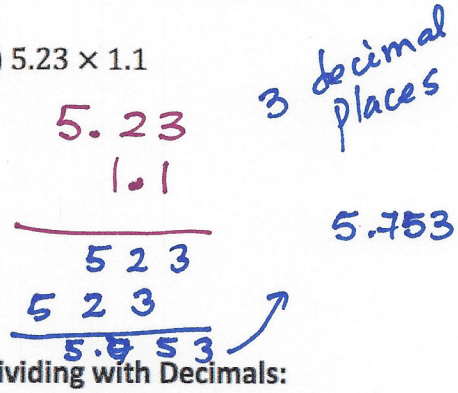
First: Set it up vertically:

Then perform multiplication.

Count decimal places and place decimal.



b) 5.23 × 1.1



Dividing with Decimals:

Set up the division as a fraction. Multiply numerator and denominator in your fraction (which is both divisor and dividend within the fraction) by multiples of 10 until there is no more decimal places. Then divide numerator by denominator.

Ex) a) Divide 1.2 ÷ 0.4

Set up fraction: $\frac{1.2}{0.4} \rightarrow 1 \text{ place} = \frac{12}{10} \div \frac{4}{10}$