G5-M4-Lesson 17

1. Multiply and model. Rewrite each expression as a multiplication sentence with decimal factors.

a. $\frac{3}{10} \times \frac{2}{10}$

$= \frac{3 \times 2}{10 \times 10}$

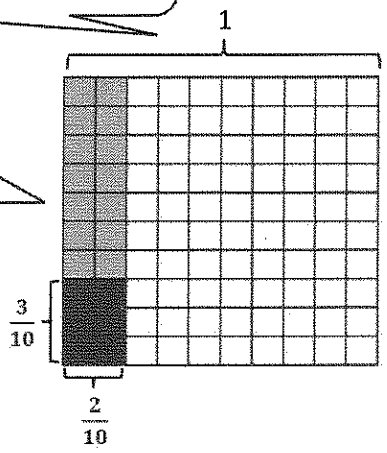
$= \frac{6}{100}$

When multiplying fractions, I multiply the two numerators, 3×2, and the two denominators, 10×10, to get $\frac{6}{100}$.

Since the whole grid represents 1, each square represents $\frac{1}{100}$. 10 squares is equal to $\frac{1}{10}$.

I shade in $\frac{2}{10}$ (20 squares vertically).

I shade in $\frac{3}{10}$ of $\frac{2}{10}$ (6 squares).



b. $\frac{3}{10} \times 1.2$

$= \frac{3}{10} \times \frac{12}{10}$

$= \frac{3 \times 12}{10 \times 10}$

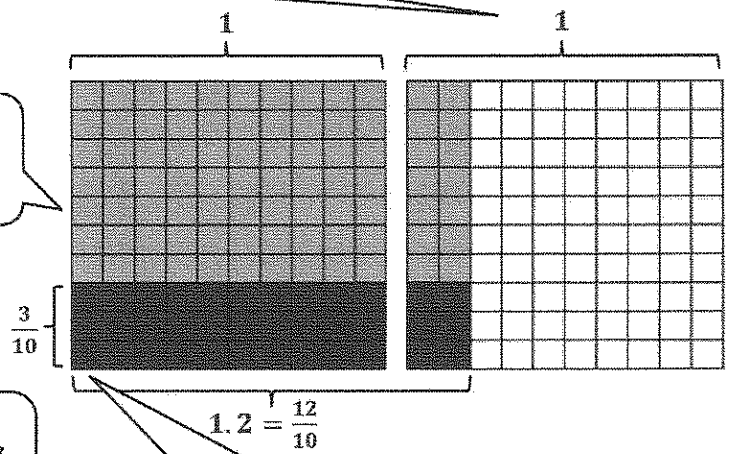
$= \frac{36}{100}$

I label each whole grid as 1, and each square represents $\frac{1}{100}$.

I shade in 1 and $\frac{2}{10}$ (120 squares vertically).

I rename 1.2 as a fraction greater than one, $\frac{12}{10}$, and then multiply to get $\frac{36}{100}$.

I shade in $\frac{3}{10}$ of $\frac{12}{10}$ (36 squares).



2. Multiply.

a. 2×0.6

$= 2 \times \frac{6}{10}$

$= \frac{2 \times 6}{10}$

$= \frac{12}{10}$

$= 1.2$

I rewrite the decimal as a fraction and then multiply the two numerators and the two denominators to get $\frac{12}{10}$. Lastly, I write it as a mixed number if possible.

b. 0.2×0.6

$= \frac{2}{10} \times \frac{6}{10}$

$= \frac{2 \times 6}{10 \times 10}$

$= \frac{12}{100}$

$= 0.12$

0.2 is 2 tenths, or $\frac{2}{10}$. After multiplying, the answer is $\frac{12}{100}$, or 0.12.

c. 0.02×0.6

$= \frac{2}{100} \times \frac{6}{10}$

$= \frac{2 \times 6}{100 \times 10}$

$= \frac{12}{1{,}000}$

$= 0.012$

0.02 is 2 hundredths, or $\frac{2}{100}$. After multiplying, the answer is $\frac{12}{1{,}000}$ or 0.012.

3. Sydney makes 1.2 liters of orange juice. If she pours 4 tenths of the orange juice in the glass, how many liters of orange juice are in the glass?

$\frac{4}{10}$ *of* 1.2 L

$\frac{4}{10} \times 1.2$

$= \frac{4}{10} \times \frac{12}{10}$

$= \frac{4 \times 12}{10 \times 10}$

$= \frac{48}{100}$

$= 0.48$

To find 4 tenths of 1.2 liters, I multiply $\frac{4}{10}$ times $\frac{12}{10}$ to get $\frac{48}{100}$, or 0.48.

There are 0.48 L *of orange juice in the glass.*