Lesson 6: Multiplying Decimals

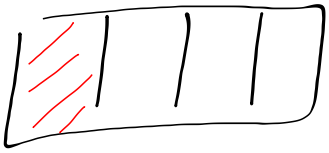
0.2

Nov 10, 2022

(equivalent to fractions)

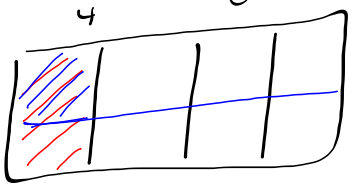
Recall:

Draw the fraction 1/4. (use a rectangle)



$\frac{1}{2}$ of the $\frac{1}{4}$ of the lot

$\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$

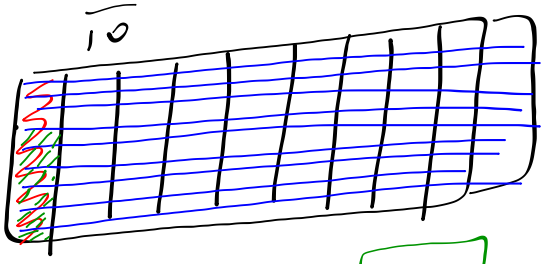


Recall:

Read the decimal and convert to fraction:

0.1 zero and 1 tenths

$\frac{1}{10}$



$10 \times 10 = 100$

$0.6 \times 0.1 = \boxed{0.06}$

zero and 6 100th

$\frac{6}{100}$

$\frac{6}{10} \times \frac{1}{10}$

$\frac{6}{10}$ of $\frac{1}{10}$

More Visualization using Concrete Example / Real World examples

e.x. I take $\frac{1}{2}$ of 0.50 \$

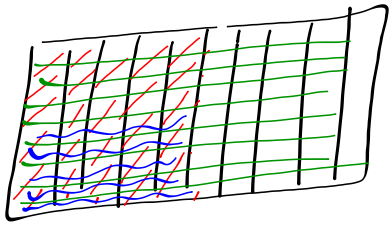
$5 \times \frac{1}{2} \times 0.5 = 0.25$

$5 \times$

$\frac{5}{10} \times 0.5$

0.5×0.5

0.25 \$ $\frac{25}{100}$



equivalent answers.

Determining the Number of Digits after Decimal when doing (long) multiplication

e.x

$$\overset{1}{0.5} \times \overset{1}{0.5} = \overset{2 \text{ digits}}{0.25}$$

$$\overset{2}{0.25} \times \overset{2}{0.25} = \overset{4 \text{ digits}}{0.0625}$$

integer / integral part

fractional part

$\frac{25}{100}$

$\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$

You add the # of digits in each fractional part of the 2 decimals to determine...

You do pre handout!

Long Multiplication

$-129 \notin \mathbb{N}$

$63 \in \mathbb{N}$

natural number

whole +

$0.063 \notin \mathbb{Z}$

does not belong to

integer

whole + −

$0.063 \in \mathbb{Q}$

rational number

$\pi \notin \mathbb{Q}$

3.14.....

0.063×-0.129

$$\begin{array}{r} {}^{1}\,{}^{5}\,{}^{2} \\ 129 \\ \times\ 63 \\ \hline {}^{1}387 \\ {}^{1}7740 \\ + \\ \hline 0.008127 \end{array}$$

-0.008127

step i. stack number as natural # and x

step ii. Put decimal in correct spot according to the sum of # of digits ...

step iii: use law of signs

$+ \quad + \quad = \quad +$

$- \quad - \quad = \quad +$

$+ \quad - \quad = \quad -$

You do

pg 6.7

2 a) 42.7×0.01

$\frac{42.7}{1} \times \frac{1}{100}$

$\frac{42.7}{100}$

Recall

$42.7 \div 100$

0.427

2 b) 0.36×0.2

$$\begin{array}{r} 36 \\ \times\ 2 \\ \hline \end{array}$$

You do

#1. b) pg 6.11

and rest of handouts focusing on word question

→ Show me lesson 4 handout