

# To Multiply Numbers with Decimals

## Line Up Numbers All the Way to the Right (As if the Decimals Were Not There)

$$1.20 \times 4.25$$

Place the longer number on top.

Get rid of pointless zeros.

Remember to place a zero on the second line.

$$\begin{array}{r}
 4.250 \\
 \times 1.2 \\
 \hline
 850 \\
 + 4,250 \\
 \hline
 5.100
 \end{array}$$

Count how many "hops" from the decimal to the right.

Count again.

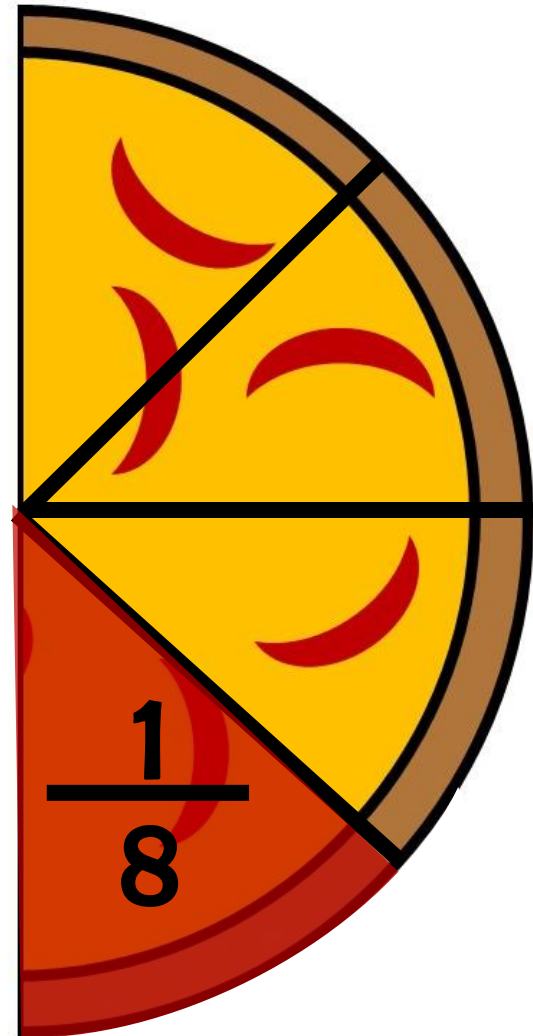
2 hops + 1 hop = 3 hops. Place the decimal the same number of hops from right to left.

Decimal “**of**” # means to multiply the decimal by the #.

$$0.25 \text{ of } 0.5 = \begin{array}{r} 0.25 \\ \times 0.5 \\ \hline 0.125 \end{array}$$

$$\frac{1}{4} \left( \frac{25}{100} \right) \text{ of } \frac{1}{2} \left( \frac{50}{100} \right) =$$

$$25\% \text{ of } 50\%$$



If multiplying a  $\#>1$  by a  $\#>1$   
the answer will be a  $\#>1$ .

$$\begin{array}{r} 1.25 \\ \times 1.5 \\ \hline 625 \\ +1250 \\ \hline 1.875 \end{array}$$

If multiplying a  $\#<1$  by a  $\#<1$   
the answer will be a  $\#<1$ .

$$\begin{array}{r} 0.25 \\ \times 0.5 \\ \hline 0.125 \end{array}$$

If multiplying a  $\#<1$  by a  $\#>1$   
the answer could either be a  
 $\#<1$  or a  $\#>1$ .

$$\begin{array}{r} 5.25 \\ \times 0.5 \\ \hline 2.625 \end{array}$$

$$\begin{array}{r} 1.25 \\ \times 0.5 \\ \hline 0.625 \end{array}$$

# Multiplying and Dividing by Powers of Ten

$$\times \frac{1}{10} = \div 10$$

$$\times 0.1 = \div 10$$

$$\times \frac{1}{100} = \div 100$$

$$\times 0.01 = \div 100$$