

2.5

Multiplying Decimals

Example 1

$$3.06 \times 1.4$$

Example 2

$$1.46 \times 0.02$$

Example 3

$$0.41 \times 3.507$$

Example

$$\begin{array}{r} .7 \quad 1 \text{ decimal digit} \\ \times .5 \quad 1 \text{ decimal digit} \\ \hline .35 \quad 2 \text{ decimal digits} \end{array}$$

$$\begin{array}{r} .21 \quad 2 \text{ decimal digits} \\ \times .6 \quad 1 \text{ decimal digit} \\ \hline .126 \quad 3 \text{ decimal digits} \end{array}$$

$$\begin{array}{r} .42 \quad 2 \text{ decimal digits} \\ \times .33 \quad 2 \text{ decimal digits} \\ \hline 126 \\ \hline 1260 \\ \hline .1386 \quad 4 \text{ decimal digits} \end{array}$$

These problems illustrate a very important rule for multiplying decimal numbers.

Whenever you multiply decimal numbers, the total number of decimal digits in the factors (numbers you're multiplying) equals the number of decimal digits in the product (answer).

Practice

Put the decimal point where it belongs in each product below. First count the decimal digits in the factors, then add to find the total. Finally put the decimal point in the product to show the total number of decimal digits.

$$\begin{array}{r} \overset{2}{1}.\overset{2}{2}3 \\ \times .9 \\ \hline 1.\overset{1}{1}07 \end{array}$$

② decimal digits
① decimal digit
③ total decimal digits

$$\begin{array}{r} \textcircled{1} \quad \overset{1}{4}.2 \\ \times .7 \\ \hline 294 \end{array}$$

○ decimal digit
○ decimal digit
○ total decimal digits

$$\begin{array}{r} \textcircled{2} \quad 4.\overset{1}{0}8 \\ \times .2 \\ \hline 816 \end{array}$$

○ decimal digits
○ decimal digit
○ total decimal digits

$$\begin{array}{r} \textcircled{3} \quad \overset{2}{4}71 \\ \times .3 \\ \hline 1413 \end{array}$$

○ decimal digits
○ decimal digit
○ total decimal digits

$$\begin{array}{r} \textcircled{4} \quad \overset{1}{2}\overset{3}{3}9 \\ \times .4 \\ \hline 956 \end{array}$$

○ decimal digits
○ decimal digit
○ total decimal digits

$$\begin{array}{r} \textcircled{5} \quad \overset{3}{.}75 \\ \times 7 \\ \hline 525 \end{array}$$

○ decimal digits
○ decimal digits
○ total decimal digits

Practice

1) $.8 \times 3.25 =$

Practice

$$2) \ 2.05 \times 5.4 =$$

Practice

$$3) 1.3 \times 7.02 =$$

Practice

$$4) .8 \times 1.25 =$$

