Multiplying Decimals

When **multiplying a decimal by another decimal**, multiply them as if they are whole numbers.

To place the decimal point in the product, **add** together the number of decimal places from each factor.

Example: Sophia spent 0.58 hours sewing an apron and 0.03 times as much to put the finishing touches on it. How long did it take her to do the finishing touches?

Example: Sophia spent 0.58 hours sewing an apron and 0.03 times as much to put the finishing touches on it. How long did it take her to do the finishing touches?

Step 1: Multiply by the hundredths.

$$\begin{array}{r} 0.58 \\ \times\ 0.03 \\ \hline 174 \end{array}$$

Example: Sophia spent 0.58 hours sewing an apron and 0.03 times as much to put the finishing touches on it. How long did it take her to do the finishing touches?

Step 2: Multiply by the tenths.

$$\begin{array}{r} 0.58 \\ \times\ 0.03 \\ \hline 174 \\ 000 \end{array}$$

Example: Sophia spent 0.58 hours sewing an apron and 0.03 times as much to put the finishing touches on it. How long did it take her to do the finishing touches?

Step 3: Multiply by the ones.

$$\begin{array}{r} 0.58 \\ \times\ 0.03 \\ \hline 174 \\ 000 \\ 000 \end{array}$$

Example: Sophia spent 0.58 hours sewing an apron and 0.03 times as much to put the finishing touches on it. How long did it take her to do the finishing touches?

Step 4: Add the partial products.

$$\begin{array}{rl} \mathbf{0.58} & \leftarrow 2 decimal places \\ \mathbf{\times\ \ 0.03} & \leftarrow 2 decimal places \\ \hline \mathbf{174} & \\ \mathbf{000} & \\ \mathbf{000} & \\ \hline \mathbf{0.0174} & \leftarrow 4 decimal places \end{array}$$

Example: Sophia spent 0.58 hours sewing an apron and 0.03 times as much to put the finishing touches on it. How long did it take her to do the finishing touches?

Answer: 0.0174

It took Sophia 0.0174 hours to do the finishing touches on the apron.

To multiply decimals:

(1) Ignore the decimal points and multiply as if they are whole numbers.

(2) Place the decimal point in the product based on the total number of decimal places in the factors.

(3) In multiplying a decimal by a whole number, the number of decimal places in the product is the same as that in the decimal factor.

Take note:

Count the number of decimal places from the right.