

Multiply Decimals by Decimals

To multiply a decimal by a decimal, multiply as you would with whole numbers. Then count the total number of decimal places in both factors. Write the same number of decimal places in the product. Sometimes you have to write zeros to place the decimal in the product.

Multiply 4.7×2.63 .

Estimate: $5 \times 3 = 15$

$$\begin{array}{r}
 2.63 \leftarrow 2 \text{ decimal places} \\
 \times 4.7 \leftarrow 1 \text{ decimal place} \\
 \hline
 1841 \\
 + 10520 \\
 \hline
 12.361 \leftarrow 3 \text{ decimal places}
 \end{array}$$

Compare the product and the estimate.

12.361 is close to 15,

so 12.361 is a reasonable answer.

Multiply 0.5×0.07 .

$$\begin{array}{r}
 0.07 \leftarrow 2 \text{ decimal places} \\
 \times 0.5 \leftarrow 1 \text{ decimal place} \\
 \hline
 0.035 \leftarrow 3 \text{ decimal places} \\
 \uparrow
 \end{array}$$

Write a zero to place the decimal in the product.

Write the number of decimal places. Multiply. Estimate to check if your answer is reasonable.

1. $0.9 \leftarrow$ _____ decimal place(s)
 $\times 0.5 \leftarrow$ _____ decimal place(s)
 \leftarrow _____ decimal place(s)

2. $0.89 \leftarrow$ _____ decimal place(s)
 $\times 0.9 \leftarrow$ _____ decimal place(s)
 \leftarrow _____ decimal place(s)

3. $1.8 \leftarrow$ _____ decimal place(s)
 $\times 3.7 \leftarrow$ _____ decimal place(s)
 \leftarrow _____ decimal place(s)

4. $4.14 \leftarrow$ _____ decimal place(s)
 $\times 2.8 \leftarrow$ _____ decimal place(s)
 \leftarrow _____ decimal place(s)

Multiply. Estimate to check if your answer is reasonable.

5. 0.8
 $\times 0.7$

6. 2.5
 $\times 0.6$

7. 3.67
 $\times 0.49$

8. 8.73
 $\times 0.5$

9. 9.2
 $\times 6.1$

10. 54.06
 $\times 0.2$

11. 7.13
 $\times 1.9$

12. 9.23
 $\times 4.8$