

Multiply Decimals by Decimals



To multiply a decimal by a decimal, multiply as you would 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: $5 \times 3 = 15$

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

Multiply: 0.5×0.07

$$\begin{array}{r}
 0.07 \leftarrow 2 \text{ decimal places} \\
 \times 0.5 \leftarrow 1 \text{ decimal place} \\
 \hline
 0.035 \leftarrow 3 \text{ decimal places} \\
 \uparrow \\
 \text{Write a zero to place the decimal in the product.}
 \end{array}$$

Compare the product and the estimate.

12.361 is close to 15,
so 12.361 is a reasonable answer.

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
 $\times 4.8$

Multiply Decimals by Decimals



Multiply.

$$\begin{array}{r} 1. \quad 0.6 \\ \times 0.8 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 0.5 \\ \times 0.6 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 1.7 \\ \times 0.9 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 2.61 \\ \times 0.4 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 2.09 \\ \times 0.3 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 5.18 \\ \times 2.7 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 6.09 \\ \times 8.6 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 37.24 \\ \times 3.1 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 218.7 \\ \times 4.8 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 432.1 \\ \times 1.2 \\ \hline \end{array}$$

11. $0.9 \times 0.7 =$ _____

12. $0.16 \times 0.6 =$ _____

13. $7.4 \times 0.4 =$ _____

14. $3.47 \times 0.9 =$ _____

15. $4.35 \times 1.7 =$ _____

16. $58.2 \times 6.8 =$ _____

17. $3.06 \times 9.1 =$ _____

18. $94.2 \times 2.5 =$ _____

19. $17.64 \times 3.2 =$ _____

20. $41.38 \times 6.3 =$ _____

21. $86.51 \times 0.8 =$ _____

22. $0.53 \times 9.7 =$ _____

Find the number that makes each problem true.

$$\begin{array}{r} 23. \quad 39.8 \\ \times 0.7 \\ \hline 27.6 \\ \square \end{array}$$

$$\begin{array}{r} 24. \quad 46.87 \\ \times 0.5 \\ \hline 23.35 \\ \square \end{array}$$

$$\begin{array}{r} 25. \quad 2.3 \\ \times 1.8 \\ \hline .14 \\ \square \end{array}$$

$$\begin{array}{r} 26. \quad 57.8 \\ \times 0.7 \\ \hline 4.46 \\ \square \end{array}$$

Problem Solving

Solve.

27. Beth works as a lifeguard at a city park. She earns \$9.50 per hour and works 7.5 hours each day. How much does she earn each day?
- _____

28. The cost of renting a pedal boat at the city park is \$6.25 per hour. Jason rented a boat for 1.5 hours. To the nearest cent, how much did the pedal boat rental cost?
- _____