


4.4 Exercises

FOR
EXTRA
HELP

 Addison-Wesley
Math Tutor Center

 MathXL

 Video Lectures
on CD

 Student's
Solutions
Manual

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 Interactmath.com

Multiply. See Example 1.

$$\begin{array}{r} 1. \quad 0.042 \\ \times \quad 3.2 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 0.571 \\ \times \quad 2.9 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 21.5 \\ \times \quad 7.4 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 85.4 \\ \times \quad 3.5 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 23.4 \\ \times \quad 0.666 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 0.896 \\ \times \quad 0.799 \\ \hline \end{array}$$

$$\begin{array}{r} \text{7.} \quad \$51.88 \\ \times \quad 665 \\ \hline \end{array}$$

$$\begin{array}{r} \text{8.} \quad \$736.75 \\ \times \quad 118 \\ \hline \end{array}$$

Use the fact that $72 \times 6 = 432$ to solve Exercises 9–16 by simply counting decimal places and writing the decimal point in the correct location. See Examples 1 and 2.

$$9. \quad 72 \times 0.6 = 432$$

$$10. \quad 7.2 \times 6 = 432$$

$$11. \quad (7.2)(0.06) = 432$$

$$12. \quad (0.72)(0.6) = 432$$

$$13. \quad 0.72(0.06) = 432$$

$$14. \quad 72(0.0006) = 432$$

$$15. \quad 0.0072(0.6) = 432$$

$$16. \quad 0.072(0.006) = 432$$

Multiply. See Example 2.

$$17. \quad (0.006)(0.0052)$$

$$18. \quad (0.0052)(0.009)$$

$$19. \quad (0.005)^2$$

$$20. \quad (0.03)^2$$

RELATING CONCEPTS (EXERCISES 21–22) For Individual or Group Work

Look for patterns in the multiplications as you work Exercises 21 and 22 in order.

21. Do these multiplications:

$$(5.96)(10) = \underline{\hspace{2cm}} \quad (3.2)(10) = \underline{\hspace{2cm}}$$

$$(0.476)(10) = \underline{\hspace{2cm}} \quad (80.35)(10) = \underline{\hspace{2cm}}$$

$$(722.6)(10) = \underline{\hspace{2cm}} \quad (0.9)(10) = \underline{\hspace{2cm}}$$

What pattern do you see? Write a “rule” for multiplying by 10. What do you think the rule is for multiplying by 100? by 1000? Write the rules and try them out on the numbers above.

22. Do these multiplications:

$$(59.6)(0.1) = \underline{\hspace{2cm}} \quad (3.2)(0.1) = \underline{\hspace{2cm}}$$

$$(0.476)(0.1) = \underline{\hspace{2cm}} \quad (80.35)(0.1) = \underline{\hspace{2cm}}$$

$$(65)(0.1) = \underline{\hspace{2cm}} \quad (523)(0.1) = \underline{\hspace{2cm}}$$

What pattern do you see? Write a “rule” for multiplying by 0.1. What do you think the rule is for multiplying by 0.01? by 0.001? Write the rules and try them out on the numbers above.

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First use front end rounding to round each number and estimate the answer. Then find the exact answer. See Example 3.

23. Estimate: Exact:

$$\begin{array}{r} \leftarrow \text{Rounds to} \\ \times \quad \leftarrow \text{Rounds to} \end{array} \begin{array}{r} 39.6 \\ \times 4.8 \\ \hline \end{array}$$

24. Estimate: Exact:

$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 18.7 \\ \times 2.3 \\ \hline \end{array}$$

25. Estimate: Exact:

$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 37.1 \\ \times 42 \\ \hline \end{array}$$

26. Estimate: Exact:


$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 5.08 \\ \times 71 \\ \hline \end{array}$$

27. Estimate: Exact:


$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 6.53 \\ \times 4.6 \\ \hline \end{array}$$

28. Estimate: Exact:

$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 7.51 \\ \times 8.2 \\ \hline \end{array}$$

 29. Estimate: Exact:

$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 2.809 \\ \times 6.85 \\ \hline \end{array}$$

 30. Estimate: Exact:

$$\begin{array}{r} \times \\ \hline \end{array} \begin{array}{r} 73.52 \\ \times 22.34 \\ \hline \end{array}$$

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Even with most of the problem missing, you can tell whether or not these answers are reasonable. Circle reasonable or unreasonable. If the answer is unreasonable, move the decimal point, or insert a decimal point, to make the answer reasonable.

31. How much was his car payment? \$18.90
 reasonable
 unreasonable, should be _____

32. How many hours did she work today? 25 hours
 reasonable
 unreasonable, should be _____

33. How tall is her son? 60.5 in.
 reasonable
 unreasonable, should be _____

34. How much does he pay for rent now? \$6.92
 reasonable
 unreasonable, should be _____

35. What is the price of one gallon of milk? \$419
 reasonable
 unreasonable, should be _____

36. How long is the living room? 16.8 feet
 reasonable
 unreasonable, should be _____

37. How much did Mrs. Brown's baby weigh?
 0.095 pounds
 reasonable
 unreasonable, should be _____

38. What was the sale price of the jacket? \$1.49
 reasonable
 unreasonable, should be _____

Solve each application problem. Round money answers to the nearest cent when necessary.

39. LaTasha worked 50.5 hours over the last two weeks. She earns \$18.73 per hour. How much did she make?

40. Michael's time card shows 42.2 hours at \$10.03 per hour. What are his earnings?