



Name _____ Date _____

Multiplying Decimals by Whole Numbers

(pages 133–136)

When you multiply a decimal by a whole number, you can estimate to find where to put the decimal point in the product. You can also find where to put the decimal point in the product by counting the decimal places in the decimal factor.

Estimation	<ul style="list-style-type: none"> Estimate the product of a decimal and a whole number by rounding the decimal to its greatest place value position and then multiplying. Multiply as you do with whole numbers. Use your estimate as a guide for placing the decimal in the product.
Counting Decimal Places	<ul style="list-style-type: none"> Multiply the decimal and whole number as if they were both whole numbers. Count the number of decimal places in the decimal factor. Place the decimal point in the answer so that there are the same number of decimal places as in the decimal factor. Annex (or write) zeros to the left of your answer if more decimal places are needed.

EXAMPLES

Find the value of each expression.

A Find 22.3×5 .

20×5 Round the decimal. Estimate the product; 100.

22.3
 $\times 5$ Multiply as with whole numbers.

111.5 Use the estimate, 100, as a guide to placing the decimal. Place the decimal point after 111.

B Find 0.015×3 .

0.015 There are 3 decimal places in this factor.

$\times 3$
 0.045 Annex a zero on the left to make three decimal places.

Try These Together

Multiply.

1. 4.02
 $\times 5$

HINT: Estimate the product; then, multiply as with whole numbers.

2. 0.017
 $\times 2$

HINT: Count the decimal places in the decimal factor.

PRACTICE

Multiply.

3. 0.4
 $\times 9$

4. 0.62
 $\times 7$

5. 1.71
 $\times 3$

6. 3.65
 $\times 5$

Solve each equation.

7. $b = 61 \times 0.004$

8. $9.7 \times 561 = a$

9. $v = 5,618 \times 6.83$



10. Standardized Test Practice Evaluate $104h$ if $h = 7.1$.

A 0.7384

B 738.4

C 7,384

D 73,840

Answers: 1. 20.1 2. 0.034 3. 3.6 4. 4.34 5. 5.13 6. 18.25 7. 0.244 8. 5,441.7 9. 38,370.94 10. B