PreAlgebra
Skill-Builder #D–7
Multiplying Decimals by Powers of 10

When multiplying a decimal by 10^n, we must move the decimal point n places to the right of its current location. Use zeros to fill in any missing places. Note that n coincides with the number of zeros in the power of 10.

Reminders: 1) The sign of the number remains the same.
2) If the number is a whole number, the decimal point is after the place value of ones, but before the place value of tenths.

Example 1:

Multiply: $-67.235 \times 100{,}000$

move the decimal point 5 places to the right of its current location

$100{,}000 = 10^5$ (since there are 5 zeros)

Answer: $-6{,}723{,}500$

Example 2:

Multiply: $5.00023 \cdot 100$

move the decimal point 2 places to the right of its current location

$100 = 10^2$ (since there are 2 zeros)

Answer: 500.023

Example 3:

Multiply: $-43{,}346 \times 10{,}000$

move the decimal point (after the ones digit) 4 places to the right

$10{,}000 = 10^4$ (since there are 4 zeros)

Answer: $-433{,}460{,}000$

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1. Multiply: $-56.7 \times 1{,}000$

2. Multiply: $2{,}586.127 \times 10$

3. Multiply: $-452.317 \times 10{,}000$

4. Multiply: $0.000256 \cdot 100$

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Answers

1. $-56{,}700$

2. $25{,}861.27$

3. $-4{,}523{,}170$

4. 0.0256

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