

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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