

Scientific Notation

To Change from Standard Form to Scientific Notation:

- (1) Place decimal point such that there is one non-zero digit to the left of the decimal point.
- (2) Count number of decimal places the decimal has "moved" from the original number. This will be the exponent of the 10.
- (3) If the original number was less than 1, the exponent is negative; if the original number was greater than 1, the exponent is positive.

Examples:

Given: 4,750,000
use: 4.75 (moved 6 decimal places)
answer: 4.75×10^6 The original number is >1 so the exponent is positive.

Given: 0.000789
use: 7.89 (moved 4 decimal places)
answer: 7.89×10^{-4} The original number is <1 so the exponent is negative.

To Change from Scientific Notation to Standard Form:

- (1) Move decimal point to right for positive exponent of 10.
- (2) Move decimal point to left for negative exponent of 10.

Examples:

Given: 1.015×10^{-8}
answer: **0.00000001015** (8 places to left)
Negative exponent move decimal to the left. The number is <1

Given: 5.024×10^3
answer: **5,024** (3 places to right) Positive exponent move decimal to the right. -- the number is >1