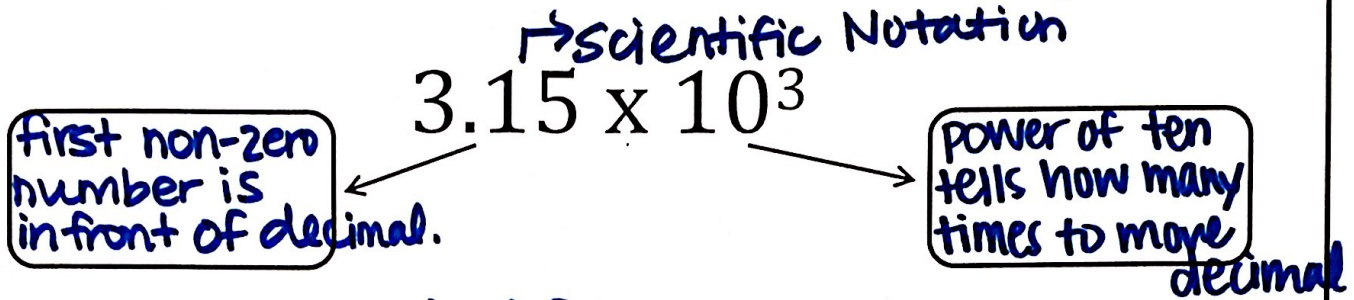


## Scientific Notation

Sci. Not. is used to express very small or very large numbers.



If the number expressed in standard form is greater than or equal to 1, then the power of 10 is positive.

If the number expressed in standard form is less than 1 but greater than zero, then the power of 10 is negative.

### Convert from Standard to Scientific Notation

← Go Left

If the number is greater than 1, move the decimal left until it is behind the first non-zero number.

The number of times you moved the decimal becomes the exponent.

Example: 71,900 → 7.19 × 10<sup>4</sup>

You try:

1. 215,600,000 → 2.156 × 10<sup>8</sup>
2. 1,200 → 1.2 × 10<sup>3</sup>

Go Right →

If the number is less than 1, move the decimal right until it is behind the first non-zero number.

The number of times you moved the decimal becomes a negative exponent.

Example: 0.000472 → 4.72 × 10<sup>-4</sup>

You try:

1. 0.00416 → 4.16 × 10<sup>-3</sup>
2. 0.0000085 → 8.5 × 10<sup>-6</sup>

### Convert from Scientific to Standard Form

If the exponent is positive, the standard form is larger than 1. If the exponent is negative, the standard form is less than one. Move the decimal the number of times shown by the exponent.

Examples:

1)  $8.42 \times 10^{-6} = .00000842$

2)  $5.649 \times 10^7 = 56,490,000$

.00000842

56490000