

## Scientific Notation → Regular Notation

If exponent is Negative  
Move decimal to the Left  
Add zeros where needed.

If exponent is Positive  
Move decimal to the Right  
Add zeros where needed.

Scientific Notation	How to Change	Regular Notation
$7.5 \times 10^5$	Exponent is positive 5. Move the decimal 5 places to the right	750,000.
$3.8 \times 10^4$	Exponent is positive 4. Move the decimal 4 places to the right	38,000.
$4.2 \times 10^{-3}$	Exponent is Negative 3. Move the decimal 3 places to the left.	.0042
$7.51 \times 10^{-5}$	Exponent is Negative 5. Move the decimal 5 places to the left.	.0000751

### PRACTICE:

Change from Regular Notation to Scientific Notation:

- 1.) 45,000 \_\_\_\_\_
- 2.) 9,000,000 \_\_\_\_\_
- 3.) 7,450 \_\_\_\_\_
- 4.) .0000378 \_\_\_\_\_
- 5.) .05 \_\_\_\_\_
- 6.) 670,400 \_\_\_\_\_
- 7.) 7,070,000,000 \_\_\_\_\_
- 8.) .00000089 \_\_\_\_\_
- 9.) .18900097 \_\_\_\_\_
- 10.) 570,000,000 \_\_\_\_\_

Change from Scientific Notation to Regular Notation:

- 1.)  $9.46 \times 10^{-6}$  \_\_\_\_\_
- 2.)  $2.5 \times 10^3$  \_\_\_\_\_
- 3.)  $1.6 \times 10^{-2}$  \_\_\_\_\_
- 4.)  $4 \times 10^5$  \_\_\_\_\_
- 5.)  $7.25 \times 10^4$  \_\_\_\_\_
- 6.)  $3.2456 \times 10^{-8}$  \_\_\_\_\_
- 7.)  $6 \times 10^{-3}$  \_\_\_\_\_
- 8.)  $9.7 \times 10^7$  \_\_\_\_\_
- 9.)  $5.06 \times 10^{-4}$  \_\_\_\_\_
- 10.)  $8 \times 10^2$  \_\_\_\_\_

# SCIENTIFIC NOTATION

**Regular Notation (RN)**- The \_\_\_\_\_ that we write our numbers.

Ex: Two Hundred and Eight Million is written - \_\_\_\_\_

**Scientific Notation (SN)**- A \_\_\_\_\_ of writing really large or really small numbers. In SN a number is written as the \_\_\_\_\_ of \_\_\_\_\_.

Ex: 280,000,000 can be written in scientific notation as \_\_\_\_\_

**First Factor**  
A number that is \_\_\_\_\_.  
It may or may not be \_\_\_\_\_.

$2.8 \times 10^8$

**Second Factor**  
Is always a \_\_\_\_\_.  
The power of the exponent tells you \_\_\_\_\_ to move the decimal point.  
The \_\_\_\_\_ of the exponent tells you which \_\_\_\_\_ to move it.

## Regular Notation → Scientific Notation

If Decimal is moved \_\_\_\_\_.  
Exponent will be \_\_\_\_\_.

If Decimal is moved to \_\_\_\_\_.  
Exponent will be \_\_\_\_\_.

Regular Notation	How to Change	Scientific Notation
420,000.	Move the decimal after the 4 and before the 2 That is 5 places to the left Multiply 4.2 by 10 to the 5 <sup>th</sup> power	
735,000,000.	Move the decimal after the 7 and before the 3 That is 8 places to the left Multiply 7.35 by 10 to the 8 <sup>th</sup> power	
.00897	Move the decimal after the 8 and before the 9 That is 3 places to the right Multiply 8.97 by 10 to the -3 <sup>rd</sup> power	
.0000014	Move the decimal after the 1 and before the 4 That is 6 places to the right Multiply 1.4 by 10 to the -6 <sup>th</sup> power	