The radius of the Milky Way Galaxy is

**390,000,000,000,000,000,000 meters**

**(­­\_\_\_\_\_\_\_\_\_zeros)**

This number is written in decimal notation. When numbers get this large, it is **­­\_\_\_\_\_\_\_\_\_\_\_\_** to write them in scientific notation.

* **Scientific notation** is a convenient way to write a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number.
* Numbers are written as a product of a number between 1 and 10, times the number \_\_\_\_\_\_\_\_raised to power.

For example, 215 is written in scientific notation as: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When changing scientific notation to **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the exponent tells you if you should move the decimal.

|  |  |
| --- | --- |
| With a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exponent, the number gets \_\_\_\_\_\_\_\_\_\_\_, move the decimal to **the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**:  4.08 x 103 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Examples:**  **2.898 x 108 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **5.67 x 104 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | With a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exponent, the number gets \_\_\_\_\_\_\_\_\_\_\_, move the decimal to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:  4.08 x 10-3 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Examples:**  **531.42 x 10-5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **1.428 x 10-3  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Now try changing these from Scientific Notation to Standard Form**   1. 9.678 x 104 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. 7.4521 x 10-3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. 8.513904567 x 107 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. 4.09748 x 10-5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

**Now try changing these from Standard Form to Scientific Notation**

1. 9872432 ­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. .0000345 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. .08376 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. 5673 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_