Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Assignment #1 40 weeks

**Scientific Notation-Standard to Scientific Notation**

\*\*\* Follow these steps to change a number from standard form to scientific notation. \*\*\*

***For a large number.***

Step 1: Move the decimal point to the left until you have a number greater than or equal to 1 and less than 10.

Step 2: Count the number of decimal places you moved the decimal point to the left and use that number as the positive power of 10.

Step 3: Multiply the decimal (in Step 1) by the power of 10 (in Step 2).

***For a small number.***

Step 1: Move the decimal point to the right until you have a number greater than or equal to 1 and less than 10.

Step 2: Count the number of decimal places you moved the decimal point to the right and use that number as the negative power of 10.

Step 3: Multiply the decimal (in Step 1) by the power of 10 (in Step 2).

 **Examples**

Write 782,000 in scientific notation.

Move the decimal point 5 places to the left.

 7.82000

Since the decimal point is moved 5 places to the left, multiply by 105.

 7.82 x 105

So, 782,000 = 7.82 x 105

Write 0.0000006534 in scientific notation.

Move the decimal point 7 places to the right.

6.534

Since the decimal point is moved 7 places to the right, multiply by 10-7.

 6.534 x 10-7

So, 0.0000006534 = 6.534 x 10-7

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Positive: ES1

Express each number in scientific notation.

1)

 62500000 = =

3)

 49, 603000 =

5)

 18, 56900 =

 9, 36400 =

7)

9)

 22000000000000000= =

 13) 6300000000 =

11)

 70000000000=

 4, 21600000000 =

2)

 2500000 = =

4)

 8360000 = =

6)

8)

 34, 12100=

10)

 9120000000 = =

14)

 15000000000000000= 000=0000000130000000000 =

12)

 48000000000000000000 = =

Example:

3

, 200 =

**3.2**

 **× 103**

Write 3, 200 in scientific notation.

 2 0 0 .

3

We should move the decimal point 3 places to the left. So, the exponent will be 3.

**Scientific Notation**