

CONCEPT: LOGARITHM & ANTI-LOGARITHMS

In General Chemistry, learned that pH equaled the negative (–) log of the concentration of hydronium ions and even then we had to take into account the number of significant figures.

When dealing with a number with a decimal point, like the one below, the portion to the left of the decimal point is referred to as the _____ and the portion to the right of the decimal point is referred to as the _____ .

12.005

When taking the log of a number:

1) The number of digits in the mantissa of your answer is equal to the number of significant figures in the problem.

EXAMPLE 1: Provide the answer with the correct number of significant figures for each of the following:

a) $\log(1.15 \times 10^{-5})$

b) $\log(100.)$

The **antilogarithm** of a number x is equal to _____. When taking the antilog of a number:

1) The number of significant figures in the answer is equal to the number of digits in the mantissa of the problem.

EXAMPLE 2: Provide the answer with the correct number of significant figures for each of the following:

a) $\text{antilog}(-4.18)$

b) $10^{0.0033}$