

Significant Figures

Significant Figures: Digits in a measurement that can be determined accurately plus one that is estimated and is therefore uncertain.

-All non-zero digits are always significant

446= sig figs

-Zeros:

#1-Zeros at the beginning of numbers(are never significant)

=0.678-3 sig figs

#2-Zeros b/n non-zero digits are always significant

=706-3 sig figs

#3- Zeros at the end of numbers are only considered sig figs if there is a decimal point in the number or at the end of the number

=760-2 sig figs

=760.0-4 sig figs

Exact Numbers: Numbers that are counted not obtained using measuring devices have infinite sig figs.(Most conversion factors are exact numbers)

Scientific Notation: For values written in Scientific notation, the digits in the coefficient (numbers without an exponent).

=1.500*10⁴-4 sig figs

Scientific notation in Conversion rules

#1=Move the decimal point to the position so one non-zero digit is to the left of the decimal point

#2=If the decimal point is moved to the right, the exponent is positive

#3=If the decimal point is moved to the left, the exponent is negative

Rounding

Adding, Subtracting, Dividing, Multiplying

Rounding using Sig Figs

-5 or greater will round up to the next digit

-4 or less will be rounded down

=1234.5 to 4 sig figs-1235

Calculating using Sig Figs

Multiplication/Division

#1= Answer should have the same number of significant as the measurement with the fewest sig figs

=1.35*0.04-0.0536-0.05 (Least number has 1 sig figs so you round the answer to 1 sig fig)

Addition/Subtraction

#1=The answer should have the same number of decimal places as the least precise measurement (Look at the place value of the least precise)

=1.34+2.3=3.64-3.6 (10th is the least so answer should only go up to the 10th)

Density and Percent Error

Density

Mass/Volume= Density

Intensive physical property: Doesn't change with increase in amount.

Volume

Liquids=ml

Solids=cm³

Percent error

Quantitative comparison of the experimental value to the correct or accepted value. % error is negative when experimental is smaller than actual.

% Error=(Experiment-Actual Value/Actual Value)*100



By samywestside

cheatography.com/samywestside/

Published 2nd September, 2015.

Last updated 2nd September, 2015.

Page 1 of 1.

Sponsored by [Readability-Score.com](https://readability-score.com)

Measure your website readability!

<https://readability-score.com>