

Sig Fig Rules

To determine the number of significant figures in a number use the following 3 rules:

1. Non-zero digits are always significant
2. Any zeros between two significant digits are significant

3. A final zero or trailing zeros in the decimal portion ONLY are significant

Example: .500 or .632000 the zeros are significant

.006 or .000968 the zeros are NOT significant

For addition and subtraction use the following rules:

1. Count the number of significant figures in the decimal portion ONLY of each number in the problem
2. Add or subtract in the normal fashion
3. Your final answer may have no more significant figures to the right of the decimal than the LEAST number of significant figures in any number in the problem.

For multiplication and division use the following rule:

1. The LEAST number of significant figures in any number of the problem determines the number of significant figures in the answer. (You are now looking at the entire number, not just the decimal portion)

This means you have to be able to recognize significant figures in order to use this rule

Example: 5.26 has 3 significant figures

6.1 has 2 significant figures

No think math method for conversions

$\# \text{unit}^1 \times \# \text{unit (converting to)} / \# \text{unit}^1$

$\# = \text{number}$

cancel like units

then multiply and divide then you get your answer with new units

Ideal Gas Law

$PV/nT = nRT/nT$

$P = \text{atm}$

$V = \text{L liters?}$

$n = \# \text{ of mols}$

$T = \text{Kelvin}$

$R = 0.0821 \text{ atm} \times \text{L} / \text{mol} \times \text{K}$ ---Always divide the numbers underneath

Abbreviations

Atmosphere-atm

Bar-Bar

millimeter of mercury-mmHg

Pascal-pa

Pounds per square inch-psi

Torr-torr

electron configuration

1s

2s 2p

3s 3p 3d

4s 4p 4d 4f

5s 5p 5d 5f

6s 6p 6d 6f

7s 7p 7d 7f

s=2 p=6 d=10 f=14



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