

RULES FOR COUNTING

ATOMS WORKSHEET



1. What rules must be followed when counting the number of atoms in a compound?

2. Using the rules of counting atoms, determine the number of atoms in the following compounds.

a) K_2CO_3 K = _____ C = _____ O = _____

b) $(NH_4)_3N$ N = _____ H = _____

c) $Al(OH)_3$ Al = _____ O = _____ H = _____

d) $Ba(MnO_4)_2$ Ba = _____ Mn = _____ O = _____

e) $MgSO_4$ Mg = _____ S = _____ O = _____

f) $Al_2(SiO_3)_3$ Al = _____ Si = _____ O = _____

g) $Au(IO_3)_3$ Au = _____ I = _____ O = _____

h) $Zn(NO_3)_2$ Zn = _____ N = _____ O = _____

Name : _____

Date : _____

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Answers

1. What rules must be followed when counting the number of atoms in a compound?

There are a few things to consider when counting the number of atoms in a compound.

Case 1: If there is no coefficient next to the element/compound.

- It is a single atom.
- The subscript on the lower right corner normally indicates how many atoms are in the compound.
- However, if there's a subscript outside a bracket, it includes all the elements within the bracket, which should be multiplied by the subscript.

Case 2: If a coefficient is next to the element/compound.

- All the previous rules stated in the last case apply.
- In addition, the coefficient must be multiplied by all the elements in the compound, both inside and outside brackets.

2. Using the rules of counting atoms, determine the number of atoms in the following compounds.



Name : _____

Date : _____