

LEO

GER

becomes
positive

becomes
negative

Rules

① Atoms in elemental form:
 $O.N. = 0$

② Monatomic ions:
 $O.N. = \text{charge of ion}$

③ In a molecule or formula unit, the sum of O.N. values must equal zero.

④ The sum of values for the atoms in a polyatomic ion equals the ion's charge.

"Cheat sheet"

① Group 1 \rightarrow O.N. = +1

② Group 2 \rightarrow O.N. = +2

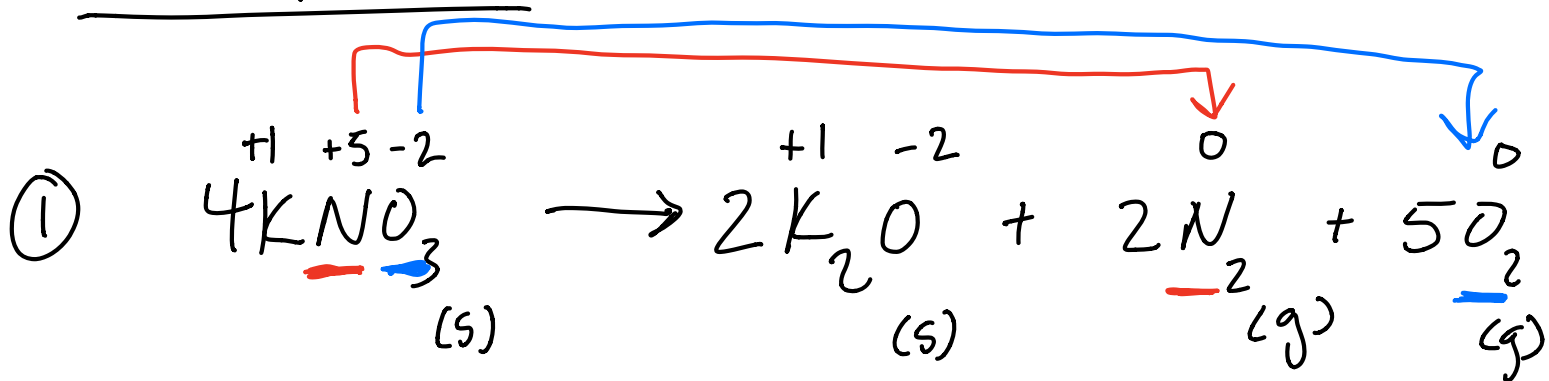
③ Hydrogen \rightarrow O.N. = +1 w/ nonmetals
O.N. = -1 w/ metals
and boron

④ Fluorine \rightarrow O.N. = -1

⑤ Oxygen \rightarrow O.N. = -1 in peroxides
-2 in everything
else

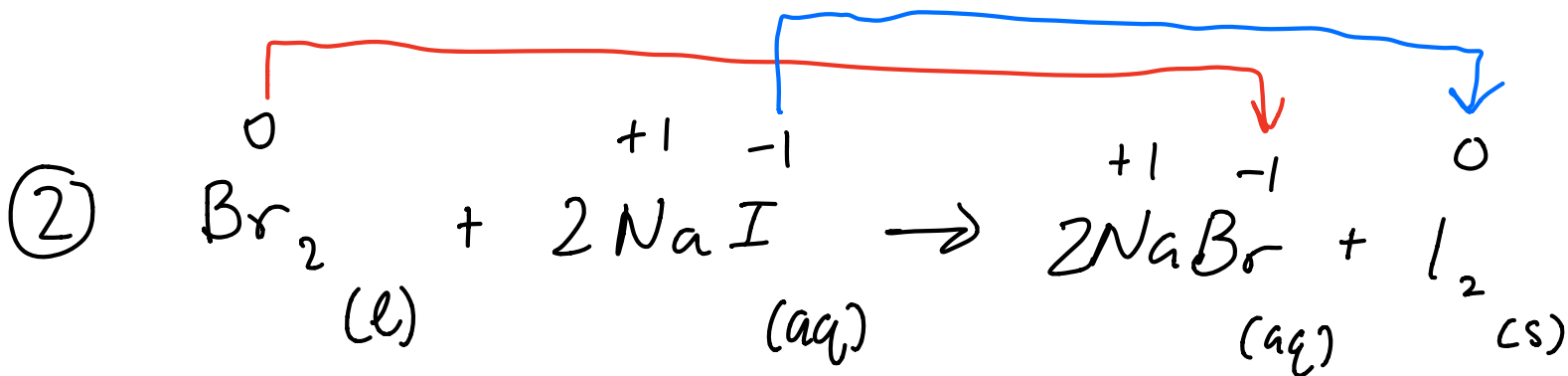
⑥ Group 17 \rightarrow O.N. = -1 w/ metals,
nonmetals except
for O, and
other halogens

Examples



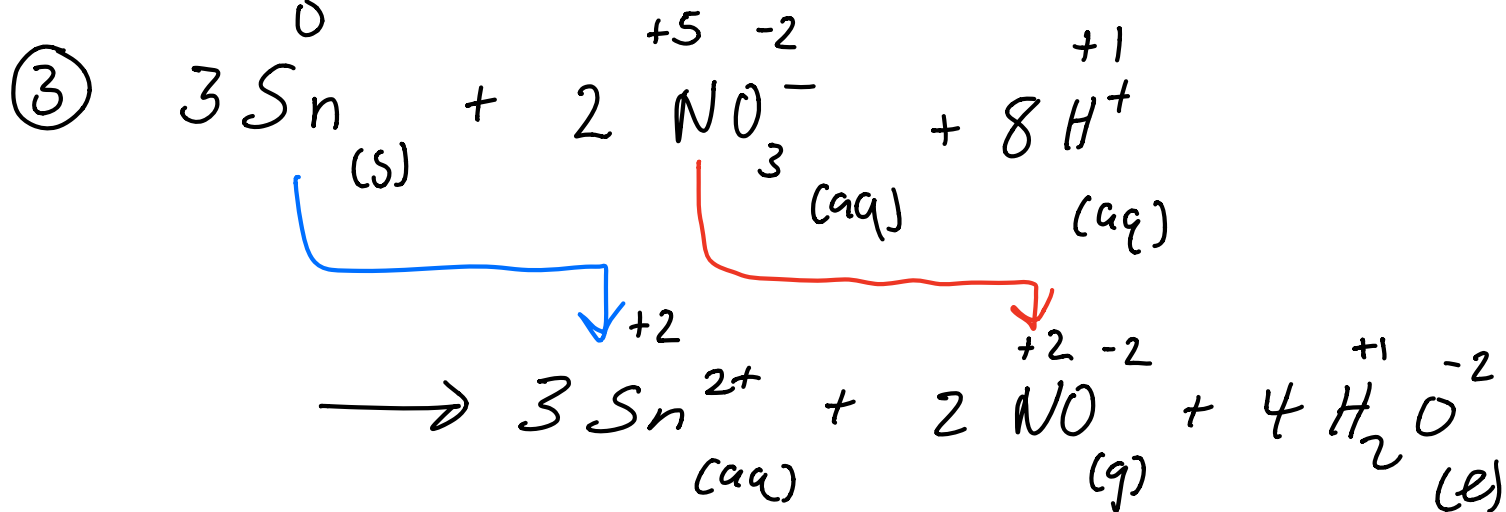
O.N. : 5 \rightarrow 0 reduction
N

O.N. : -2 \rightarrow 0 oxidation
O



Br : 0 \rightarrow -1 (gains 1 e^-)

I : -1 \rightarrow 0 (loses 1 e^-)



Sn: 0 → +2
oxidation

N: +5 → +2
reduction