Rules for assigning oxidation numbers to atoms:

Rule	Examples
Neutral substances that contain atoms of only one element have an oxidation number of zero.	Na, He, Cu, Au, H_2, Cl_2
Monatomic ions have oxidation states equal to the charge on the ion.	Ca^{2+}, S^{2-}
Oxygen may be 0, -1, -2, or -½	O_2 - oxidation is zero H_2O, SO_2, CaO - oxidation is -2 (common) H_2O_2 - oxidation is -1 in peroxide KO_2 - oxidation is -½ in this superoxide
Group IA - alkali metals have oxidation states of either zero or +1	Li metal - oxidation of Li = 0 NaCl - oxidation of Na is +1
Group IIA - alkaline earth metals have oxidation states of either zero or +2	Ca metal - oxidation of Ca = 0 $CaCl_2$ - oxidation of Ca is +2
Group VIIA - halogens a. zero when diatomic b. -1 when in ionic compounds c. Cl, Br, and I may be positive	 Cl_2, Br_2 have oxidation states of zero. NaCl, $CuBr_2$, NF_3 - halogens have oxidation states of -1 $NaClO_3$ - chlorine has an oxidation state of +5
Hydrogen can be +1, 0, -1	Hydrogen is zero in the diatomic molecule, +1 in most compounds, but it is -1 in hydrides such as NaH - sodium hydride.

The sum of all the oxidation numbers in a compound must equal the charge on the compound.

Charges are written with the number first and then the sign of the charge: 2+, 3-, etc.
Oxidation states are written with the sign first and then the number: +2, +5, -1, etc.