Oxidation numbers:

1. In free elements (that is, in the uncombined state), each atom has an oxidation number that is zero. Thus, each atom in H_2, Br_2, Na, Be, K, and O_2 and P_4 has the same oxidation number of zero

2. Ions composed of only one atom (monatomic ions), the oxidation number is equal to the charge on the ion. Thus, Li^+ has an oxidation number of +1, Ba^{2+} has an oxidation number of 2+, O^{2-} has an oxidation number of 2-

All alkali metals have an oxidation number of +1 and all alkaline earth metals have an oxidation number of +2.

3. The oxidation number of oxygen in most compounds (MgO and H_2O) is -2, but in H_2O_2 and peroxide ion it is -1.

4. The oxidation number of hydrogen is +1, except when it is bonded to metals in binary compounds. In these cases (for example LiH, NaH, CaH_2), it's oxidation number is -1.

5. Fluorine has an oxidation number of -1 in ALL of it's compounds. Other halogens (Cl, Br, and I) have a negative one oxidation number when they are in halide compound. When combined with oxygen - for example in oxoacids and oxoanions - they have positive oxidation numbers.

6. In a neutral molecule, the sum of the oxidation numbers in all atoms must be zero. In polyatomic ions, the sum of the oxidation numbers of all elements in the ion must sum up to the net charge on the ion. For example in ammonium, NH_4^+, the oxidation number if N is -3 and that of H = +1 ... which equals charge on the ion.

7. Oxidation numbers do not have to be integers. For Example, the oxidation number of O in superoxide ion O^{2-} is - ½