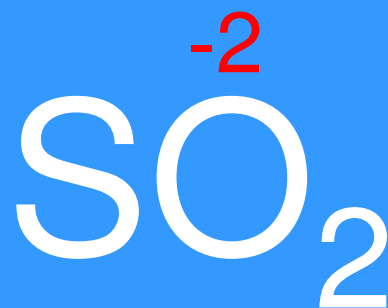


Electronegativity Trend



Covalent Compounds

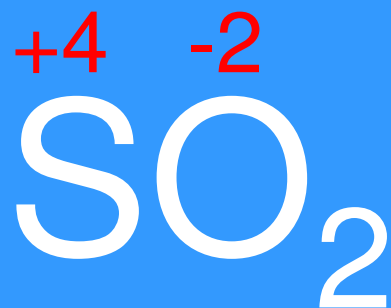
Example:



Since oxygen is the more electronegative element, it will have its normal oxidation number.

Covalent Compounds

Example:



The compound is neutral, so the oxidation number of sulfur will be sufficient to balance out the two oxygen atoms.

Covalent Compounds

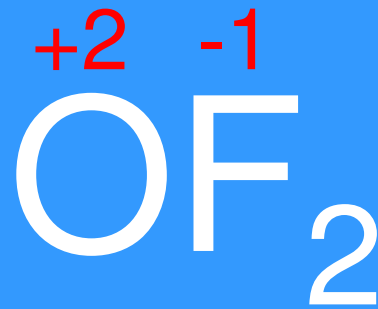
Example:



Since fluorine is the more electronegative element, it will have its normal oxidation number.

Covalent Compounds

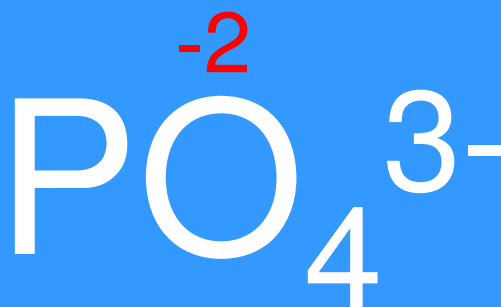
Example:



The compound is neutral, so the oxidation number of oxygen will be sufficient to balance out the two fluorine atoms.

Covalent Compounds

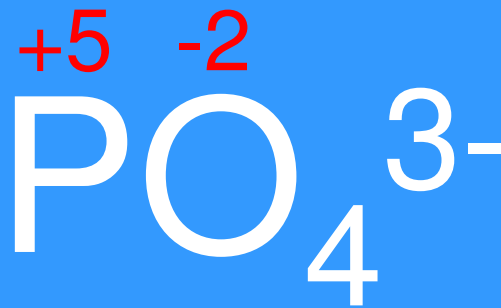
Example:



Since oxygen is the more electronegative element, it will have its normal oxidation number.

Covalent Compounds

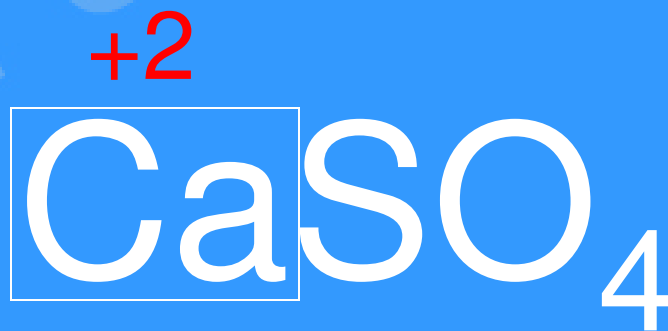
Example:



The ion has a charge of negative three, so the oxidation numbers must add up to the total charge of the ion.

Ionic Compounds with Polyatomics

Example:



This is an ionic compound, so the charge of the metal cation is its oxidation number

Ionic Compounds with Polyatomics

Example:



The anion is a polyatomic ion, sulfate, and the charge of sulfate is negative two. So the oxidation numbers of sulfur and oxygen must add to -2

Ionic Compounds with Polyatomics

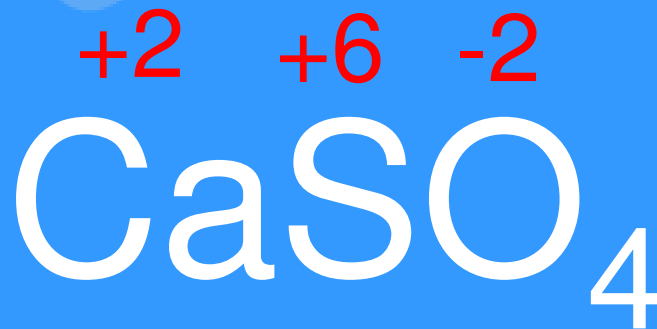
Example:



Oxygen is the more electronegative of the two, so it keeps its normal oxidation number.

Ionic Compounds with Polyatomics

Example:



Sulfur and the four oxygen atoms must add to negative two (the charge of the sulfate anion).

Ionic Compounds with Polyatomics

Example:



This is an ionic compound, so the charge of the metal cation is its oxidation number. But this is a transition metal, so we cannot know it from its position on the periodic table.

Ionic Compounds with Polyatomics

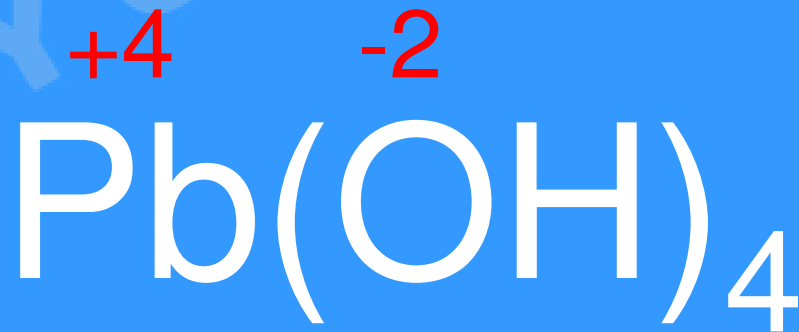
Example:



But the anion, the hydroxide ion, carries a charge of negative one. All four hydroxides are negative one, but since the compound is neutral, the oxidation number of lead must balance it out.

Ionic Compounds with Polyatomics

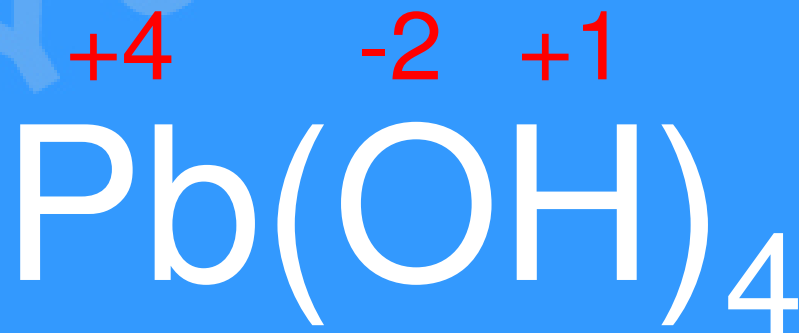
Example:



Within the anion, oxygen is the more electronegative of the two elements, and keeps its normal oxidation number.

Ionic Compounds with Polyatomics

Example:



Within the hydroxide ion, the oxygen and hydrogen must add to the charge of the ion, -1