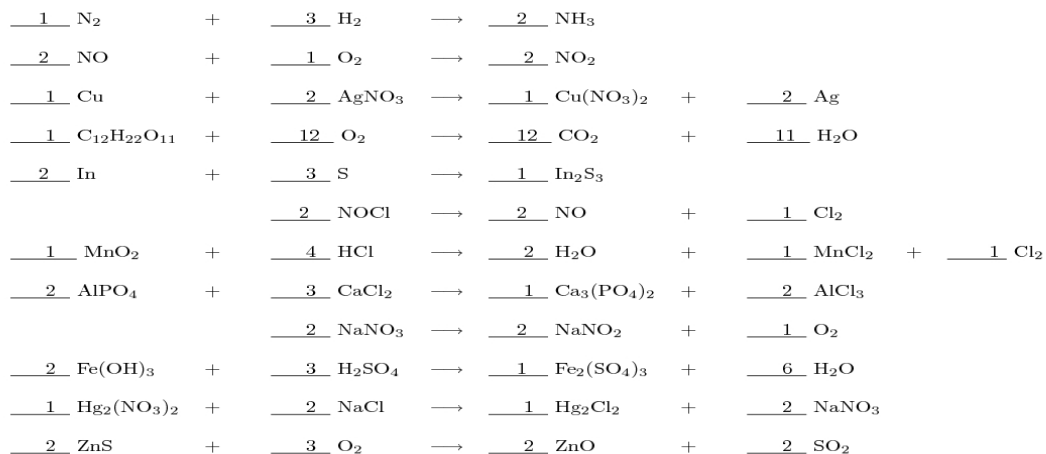


Balancing equations worksheet / identifying redox reactions



Some of the above are redox reactions. Which fit this description?

In those, identify which species is being oxidized, and which is being reduced.

In some cases the redox answers require that you see the individual ions involved in the reaction. For example, in eqn. 7, MnO₂ involves Mn⁴⁺, while MnCl₂ involves Mn²⁺. Likewise, Cl is winning the tug for shared electrons in HCl, but is neutral in Cl₂ (i.e. less negative, or more positive, in the product). In #6, while N is a tad more electronegative than Cl, it is in a tug of war with both O and Cl, so I look at the reaction as relief for N. I would accept Cl being reduced, N being oxidized as an answer also.

| reaction | redox? | oxidized | reduced |
|----------|--------|---|-----------------------------------|
| 1 | y | H ₂ | N ₂ |
| 2 | y | NO | O ₂ |
| 3 | y | Cu | Ag ⁺ |
| 4 | y | C ₁₂ H ₂₂ O ₁₁ | O ₂ |
| 5 | y | In | S |
| 6 | y | Cl | N |
| 7 | y | Cl ⁻ | Mn ⁴⁺ |
| 8 | n | | |
| 9 | y | O in NO ₃ ⁻ | N in NO ₃ ⁻ |
| 10 | n | | |
| 11 | n | | |
| 12 | y | S ²⁻ | O ₂ |