

Unit 8, Lesson 02: Answers to Practice with Oxidation Numbers

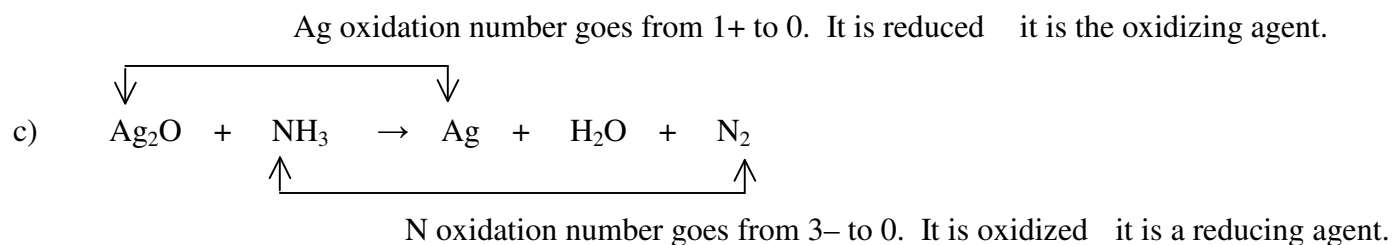
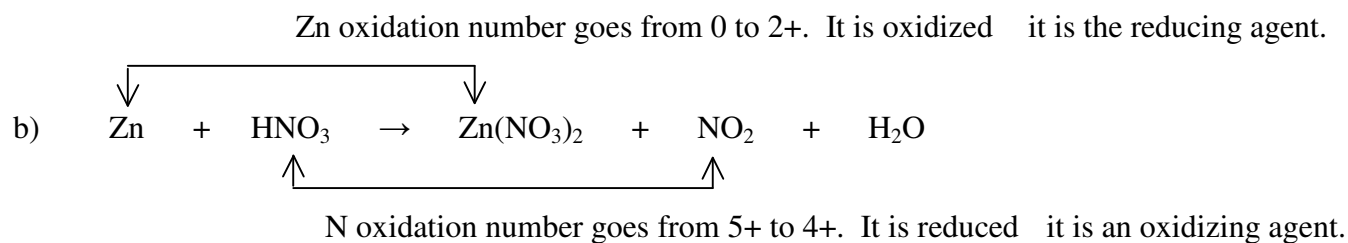
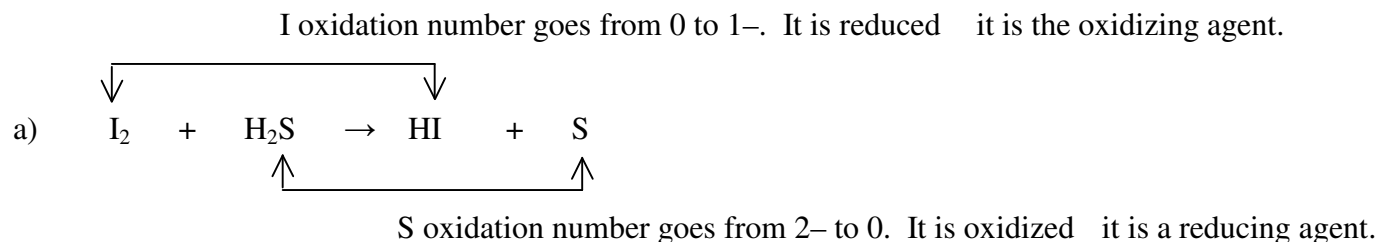
1. Find the oxidation numbers of the elements in **bold** print.

- | | | |
|-------------------------------------|---|---|
| a) HClO Cl is 1+ | d) PbSO₄ Pb is 2+ | g) Na₂O₂ O is 1- |
| b) KClO₃ Cl is 5+ | e) NaIO₄ I is 7+ | h) K₂SO₄ S is 6+ |
| c) MnO₂ Mn is 4+ | f) ClO₄¹⁻ Cl is 7+ | i) NH₄¹⁺ N is 3- |

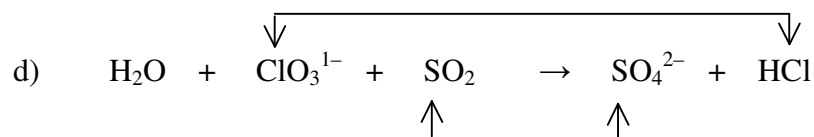
2. State whether the change is an oxidation or a reduction.

- | | |
|---|---|
| a) MnO₄¹⁻ becomes MnO₄²⁻ reduction | d) P₄O₆ becomes P₄O₁₀ oxidation |
| b) N₂ becomes NH₃ reduction | e) NH₃ becomes N₂O oxidation |
| c) O²⁻ becomes O₂ oxidation | f) SO₄²⁻ becomes S₂O₃²⁻ reduction |

3. Identify the oxidizing and reducing agents in the following unbalanced reactions:

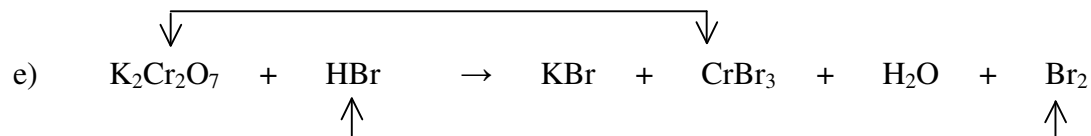


Cl oxidation number goes from 5+ to 1-. It is reduced it is the oxidizing agent.



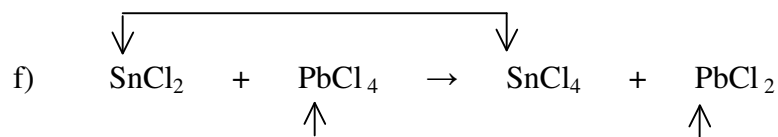
S oxidation number goes from 4+ to 6+. It is oxidized it is a reducing agent.

Cr oxidation number goes from 6+ to 3+. It is reduced it is the oxidizing agent.



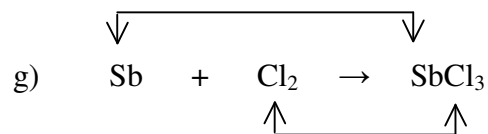
Br oxidation number goes from 1- to 0. It is oxidized it is a reducing agent.

Sn oxidation number goes from 2+ to 4+. It is oxidized it is the reducing agent.



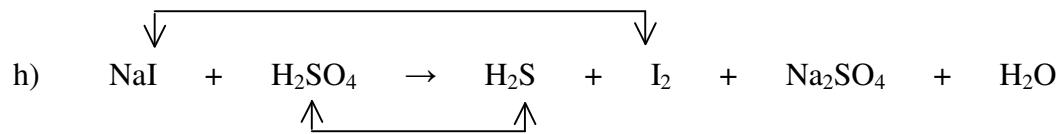
Pb oxidation number goes from 4+ to 2+. It is reduced it is an oxidizing agent.

Sb oxidation number goes from 0 to 3+. It is oxidized it is the reducing agent.



Cl oxidation number goes from 0 to 1-. It is reduced it is an oxidizing agent.

I oxidation number goes from 1- to 0. It is oxidized it is the reducing agent.



S oxidation number goes from 6+ to 2-. It is reduced it is an oxidizing agent.