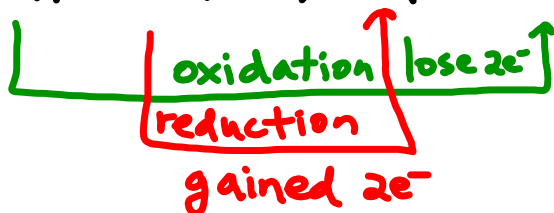


Oxidizing and Reducing Agents



1. What "caused" Zn to get oxidized?

• Cu^{2+} took $2e^-$ from Zn

↑ oxidizing agent.

2. What "caused" Cu^{2+} to get reduced?

Zn gave 2 electrons to Cu^{2+}

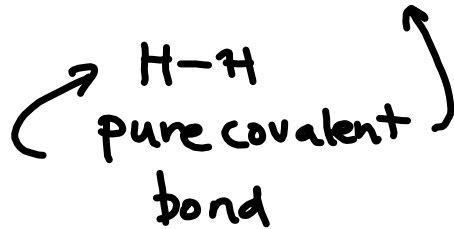
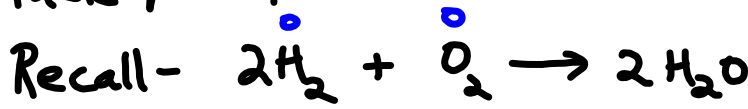
↳ reducing agent

Text - p.714 reference

Questions p.715 #3,4

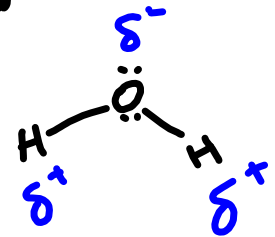
Assigning Oxidation Numbers

See table p.724



← apparent charge

↑ polar covalent bonds



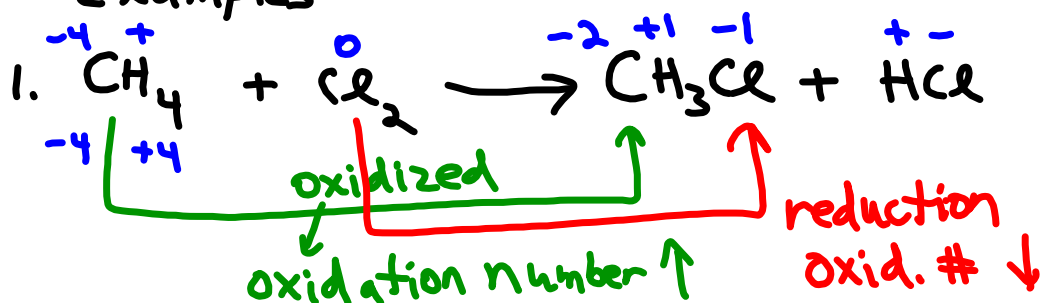
Assigning Oxidation Numbers

- a) Zinc metal $\text{Zn}^0_{(s)}$ (element rule #1)
- b) $\text{KCl} \rightarrow \text{K}^+, \text{Cl}^-$ (ions rule #2)
- c) $\text{CuO} \rightarrow \text{Cu}^{+2}, \text{O}^{-2}$ (rule 2, rule 4)
- d) HCl (rule 3)
- e) LiH (hydride) (rule 3)
- f) H_2O_2 (peroxide) H_2O_2 (rules 4+7)
 $\begin{matrix} +1 & -1 \\ \text{H} & \text{O} \\ +2 & -2 \end{matrix}$
- g) SiBr_4 (rules 5+6)
 $\begin{matrix} +4 & - \\ \text{Si} & \text{Br}_4 \\ +4 & -4 \end{matrix}$
- h) $\text{Cr}_2\text{O}_7^{2-}$ (rule 7)
 $\begin{matrix} +6 & -2 & -2 \\ \text{Cr}_2 & \text{O}_7 & \\ +12 & -14 \end{matrix}$

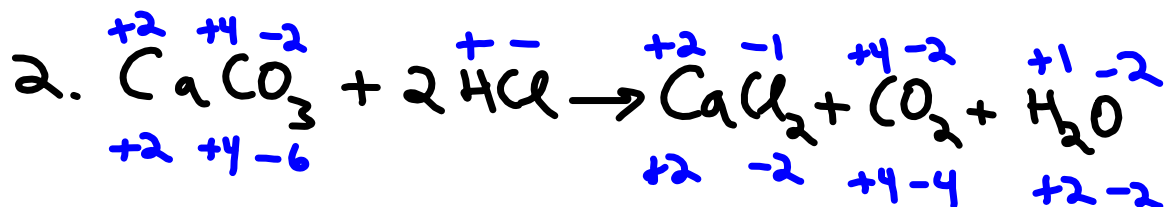
Questions - p.726 #9-12

Identifying Redox Equations Using Oxidation Numbers

Examples-



This is a redox reaction.



This is not a redox reaction.

Questions -
p.728 #13-16