

⑩  $\Delta G = \Delta H - T \Delta S$

⊖ Spent

↑ Non Spent

↘ More neg only spent at ↑ T

⑪  $L \leftrightarrow G$

$\Delta H = 0$

$\Delta G = \Delta H - T \Delta S$

$T = \frac{\Delta H}{\Delta S}$

Mar 26-7:24 AM

Reduction - GER Gain e<sup>-</sup>

↳ Oxidizing agent (Salesperson)

↳ FAT RED CAT (GARFIELD)

Reduction at Cathode ⇒ GAIN MASS

---

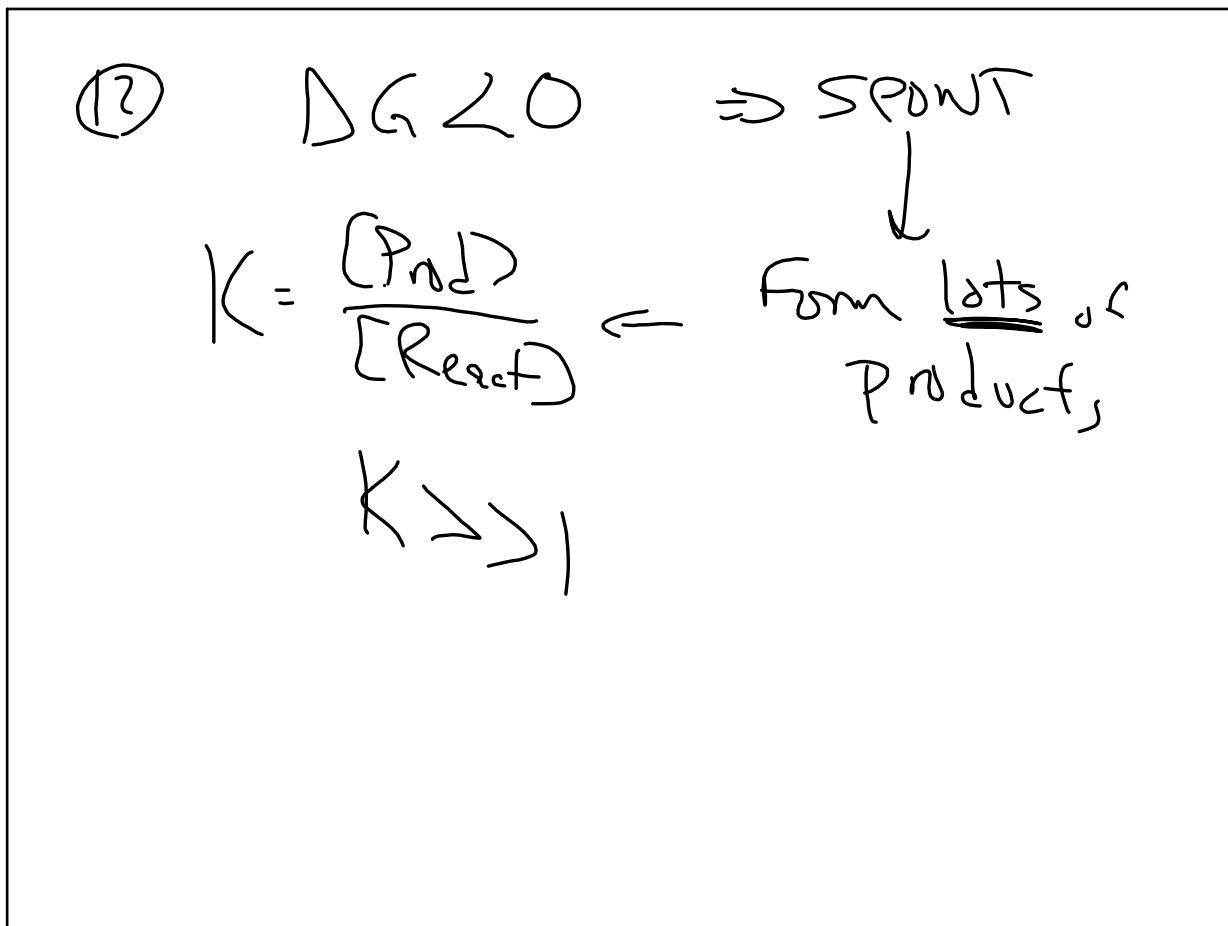
Oxidation - (EO) Lose e<sup>-</sup>

↳ Reducing agent

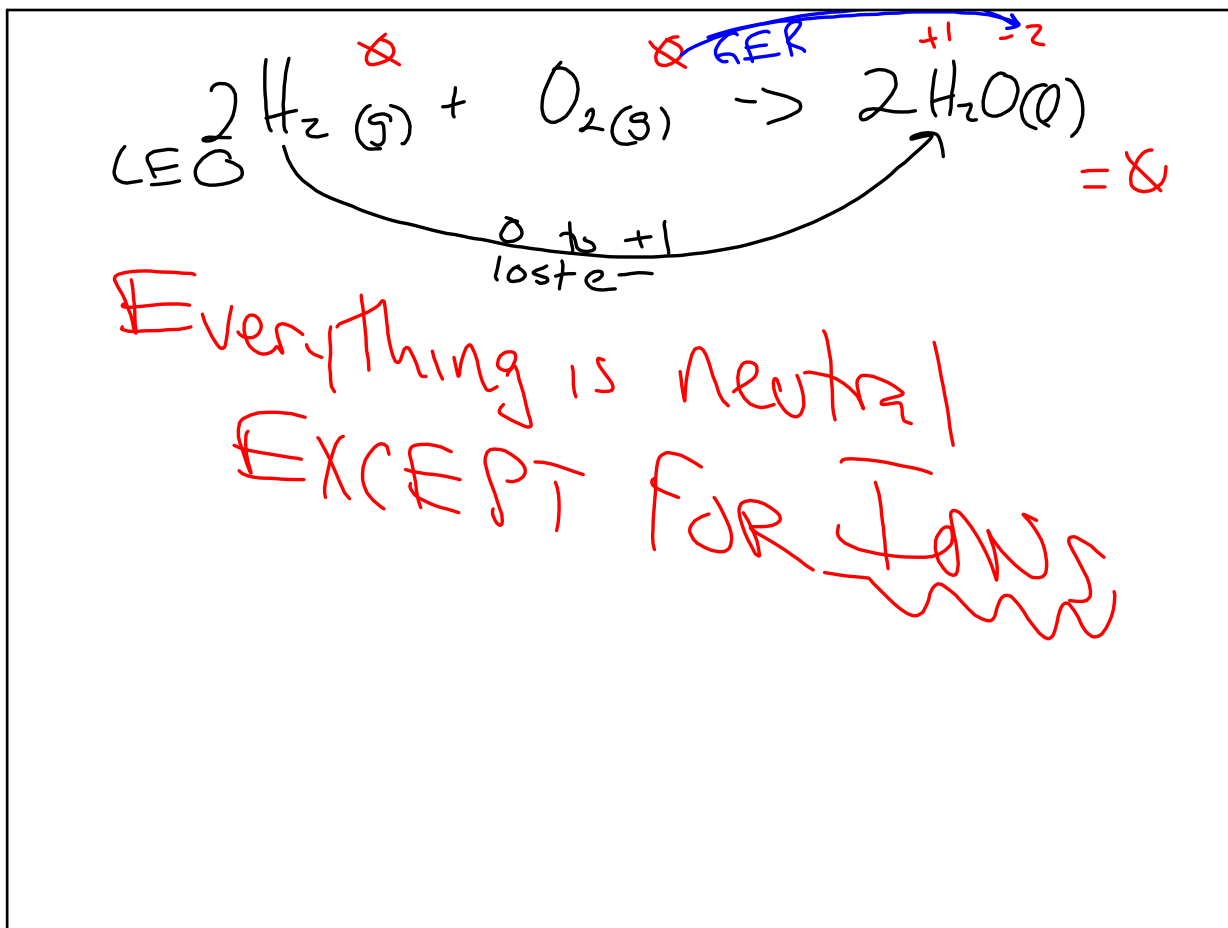
↳ An Ox

Oxidation at Anode ⇒ Lose Mass

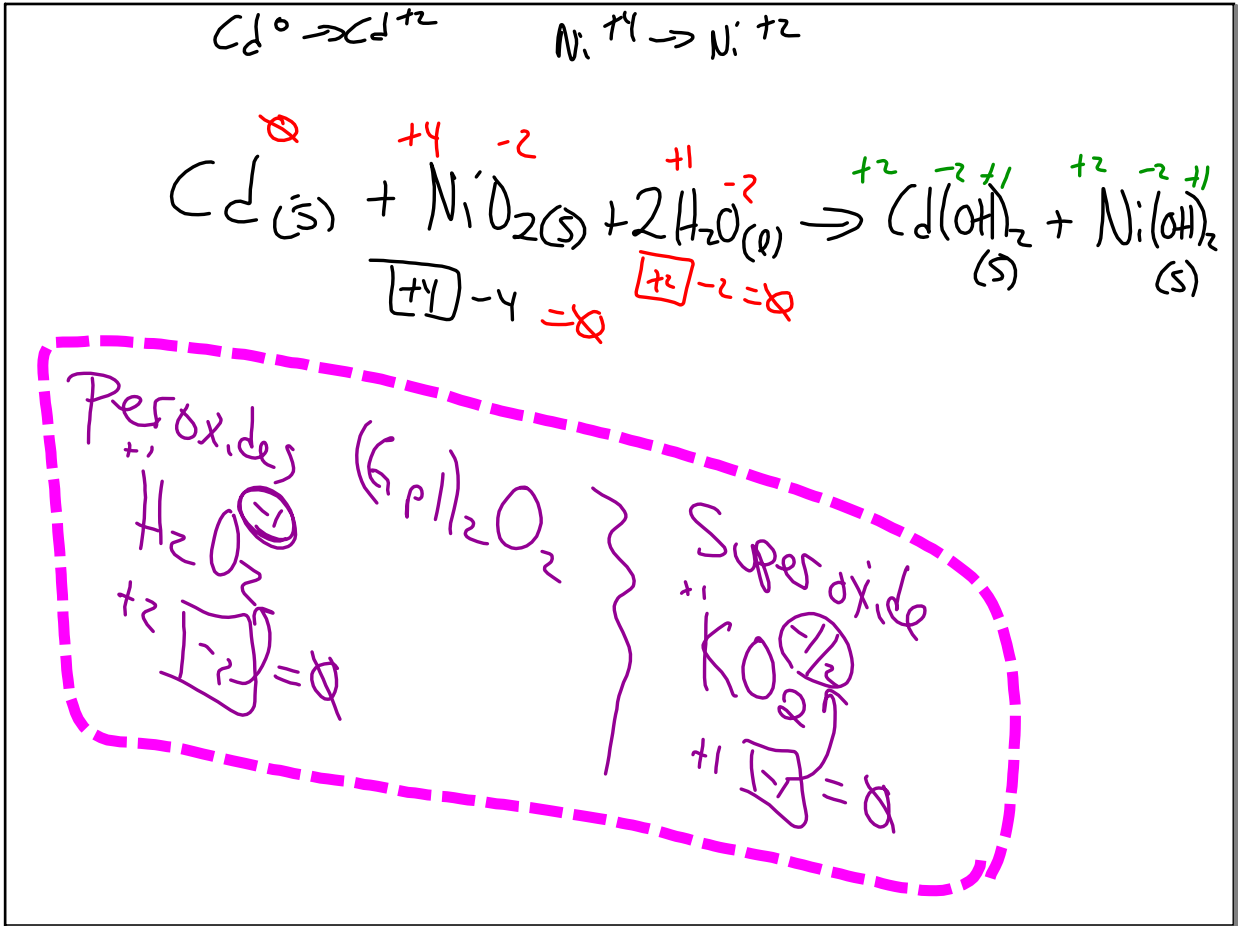
Mar 26-8:12 AM



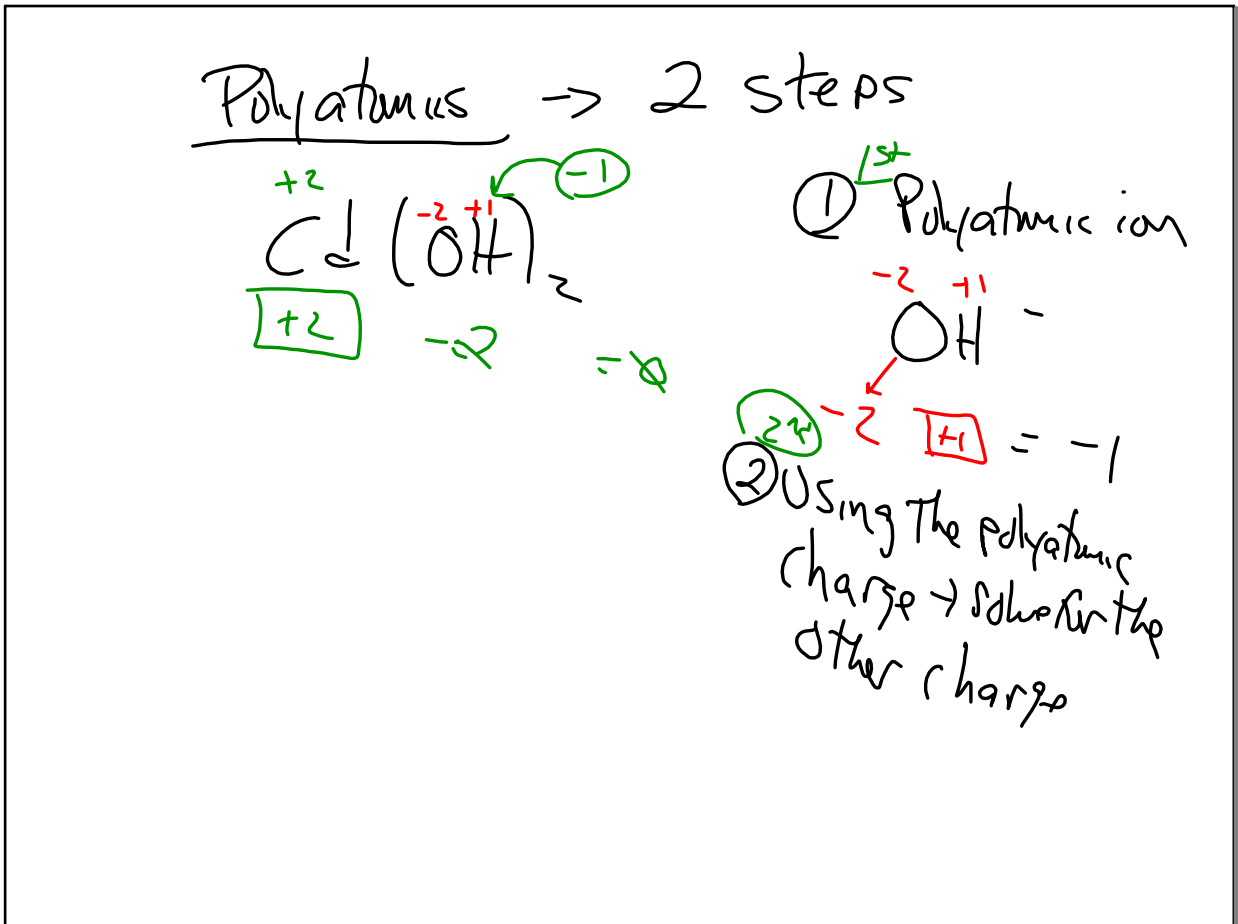
Mar 26-8:00 AM



Mar 26-8:18 AM



Mar 26-8:21 AM



Mar 26-8:42 AM

$Cd^0 \rightarrow Cd^{+2} + 2e^-$  ①

Half rxns

$2e^- + Ni^{+4} \rightarrow Ni^{+2}$

- ② Balance elements in 1/2 rxns
- ③ Balance charges by adding e<sup>-</sup> in each 1/2 rxn
- ④ e<sup>-</sup> gained must = e<sup>-</sup> lost. Mult by LCD/LCM

Mar 26-8:46 AM

Balance eqns using REDOX

$MnO_4^- (aq) + C_2O_4^{2-} (aq) \rightarrow Mn^{2+} (aq) + CO_2 (g)$

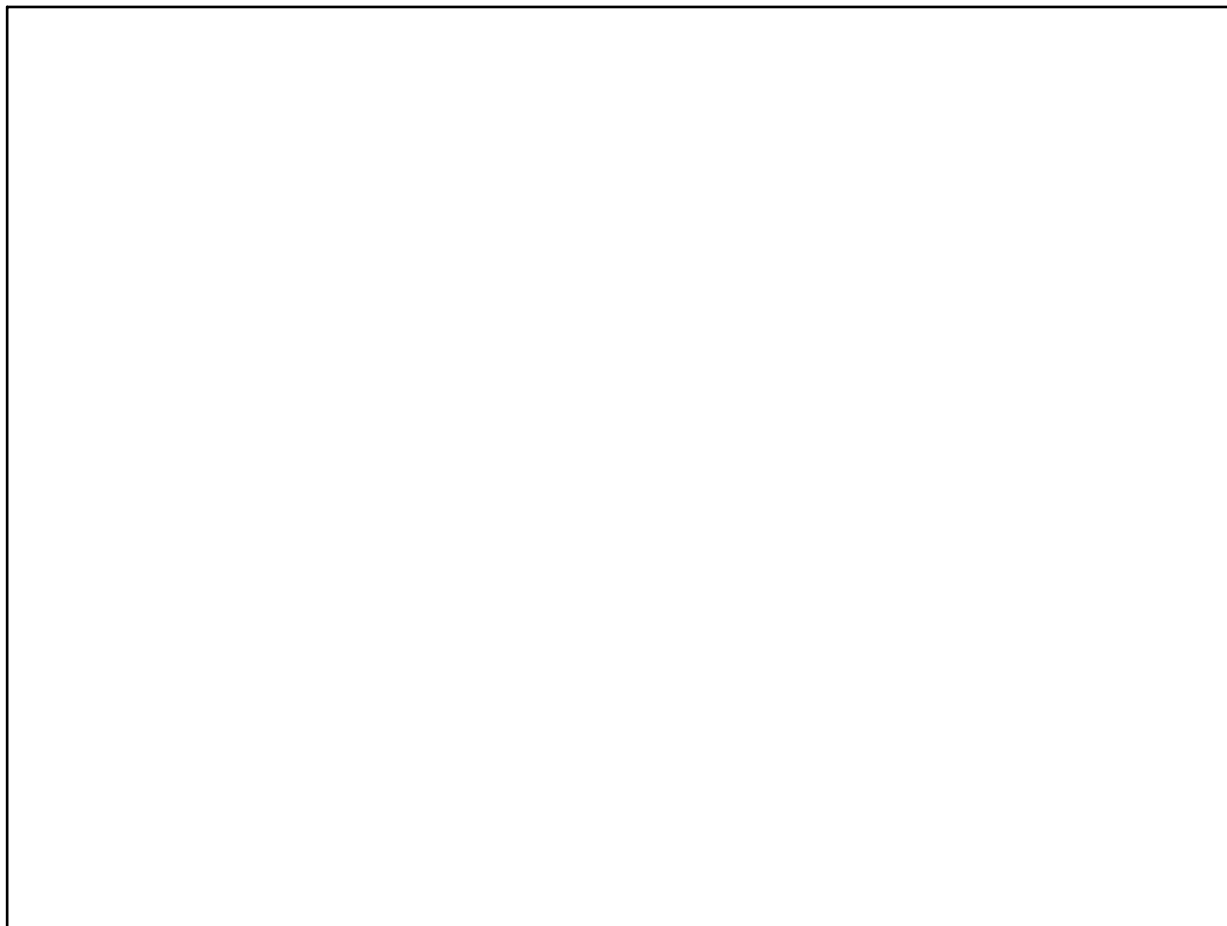
① Divide into 2 1/2 rxns based on similar elements other than H's and O's.

$5e^- + 8H^+ + \underline{MnO_4^-} (aq) \rightarrow \underline{Mn^{2+}} (aq) + 4H_2O$  (GER)

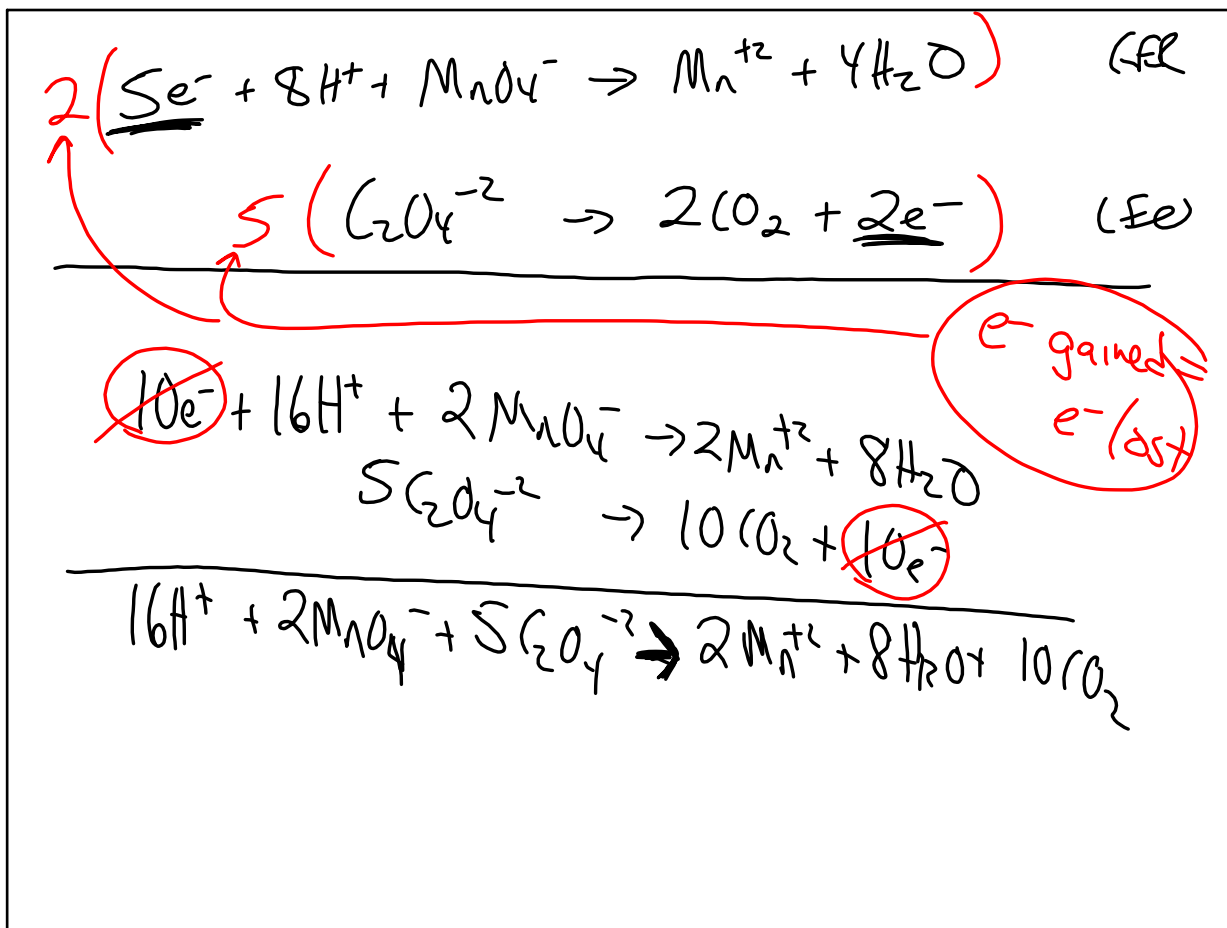
$\underline{C_2O_4^{2-}} (aq) \rightarrow 2CO_2 (g) + 2e^-$  (EO)

- ② Balance elements other than H's and O's
- ③ Balance O's by adding H<sub>2</sub>O
- ④ Balance H's by adding H<sup>+</sup>
- ⑤ Balance charges by adding e<sup>-</sup>

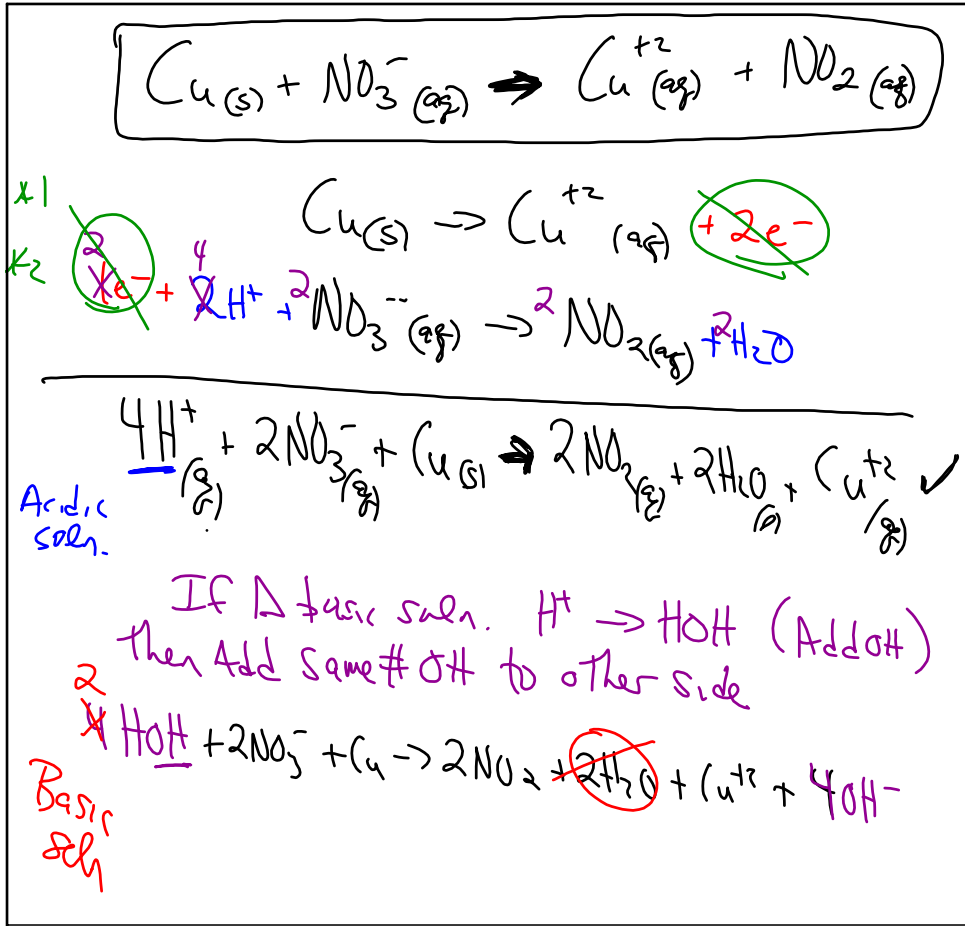
Mar 26-8:51 AM



Mar 26-9:04 AM



Mar 26-9:00 AM



Mar 26-9:06 AM

20 / 12, 16 a+c, 20 a+b

Mar 26-9:15 AM