20/36c $3Fe^{+2}_{(aq)} \Rightarrow Fe_{(s)} + 2Fe^{+3}_{(aq)}$

$2e^- + Fe^{+2} \rightarrow Fe_{(s)}$ $-0.44\ v$

$2(Fe^{+2} \rightarrow Fe^{+3} + 1e^-)$ -0.77

$-1.21\ v$

Non spont

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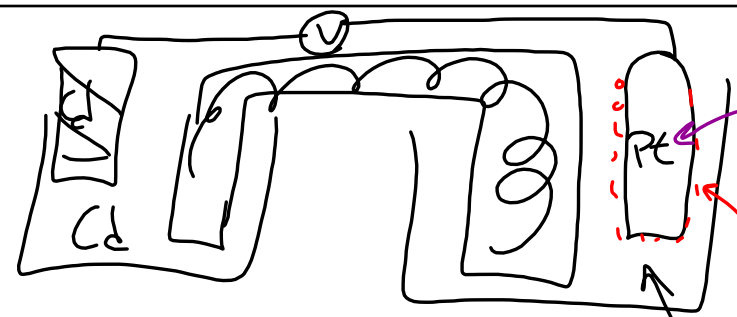
(10)



Non reactive used with GASES

$E°_{red}$ Cd $-0.403v$ ← ox

$Cl_{2(g)}$

Fav Red Cat $Cl = +1.359v$ Red

$Cl_{2(g)} + 2e^- \Rightarrow 2Cl^-$ $1.359v$

An ox $Cd^0_{(s)} \rightarrow Cd^{+2}_{(aq)} + 2e^-$ $+0.403v$

$Cl_{2(g)} + Cd^0_{(s)} \rightarrow Cd^{+2}_{(aq)} + 2Cl^-_{(aq)}$ $E° = 1.762\ v$

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SHE

Std. hydrogen electrode

E° = Qu (J)

KJ $\Delta G^\circ = -nFE^\circ$

$= -(2)(96500\ J/mol\ e^-)(1.762\ v)$

$= -340066\ J$

$\Delta G^\circ = -340.066\ KJ$

1 atm 25°C

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$\Delta G = \Delta G^\circ + RT \ln Q$

ΔG°: Std conditions

$RT \ln Q$: correction factor non-std

$Q = \frac{[Prod]^{coeff}}{[React]^{coeff}}$

$R = 8.314 \times 10^{-3}$ KJ

E = volts (J) / mol e-

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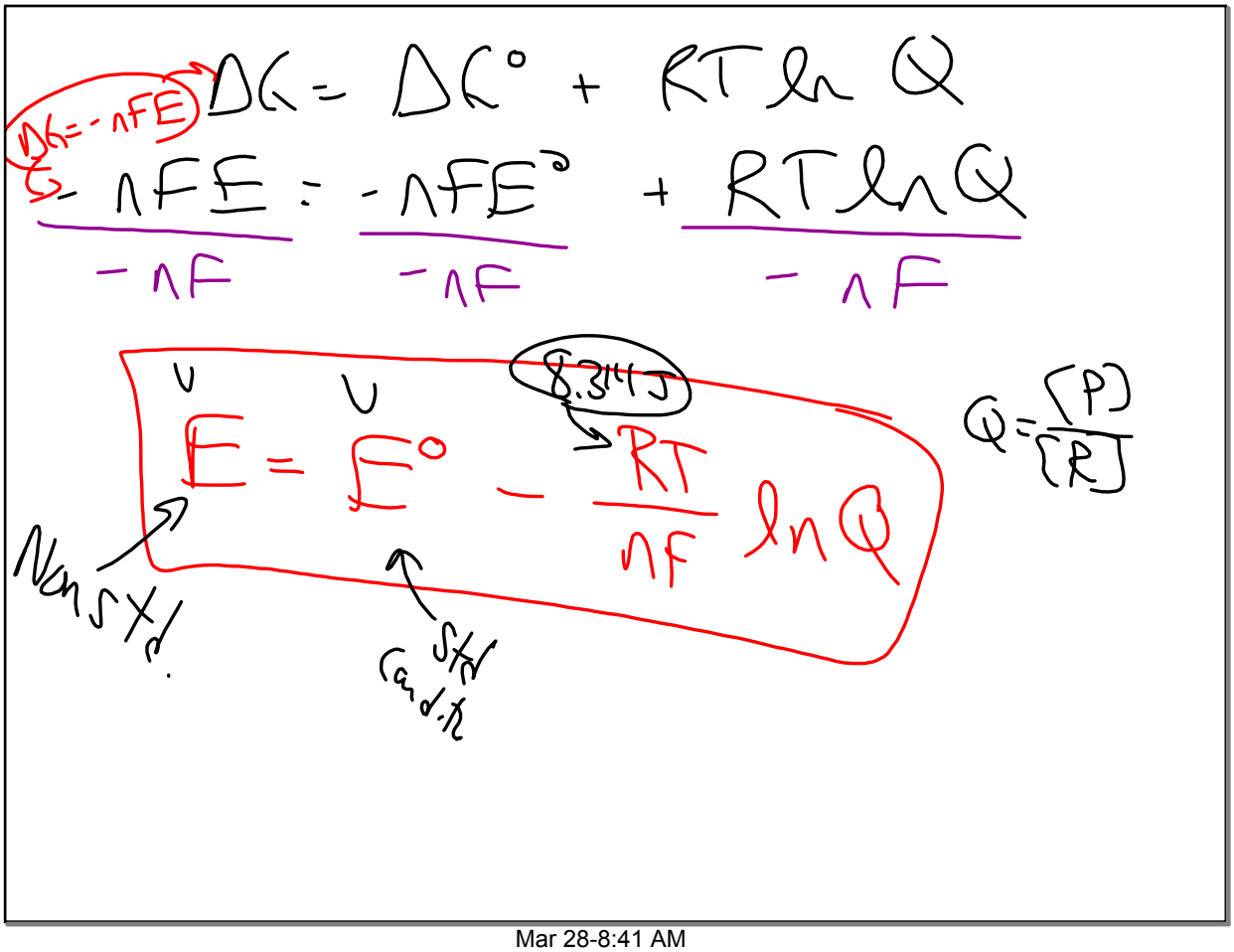

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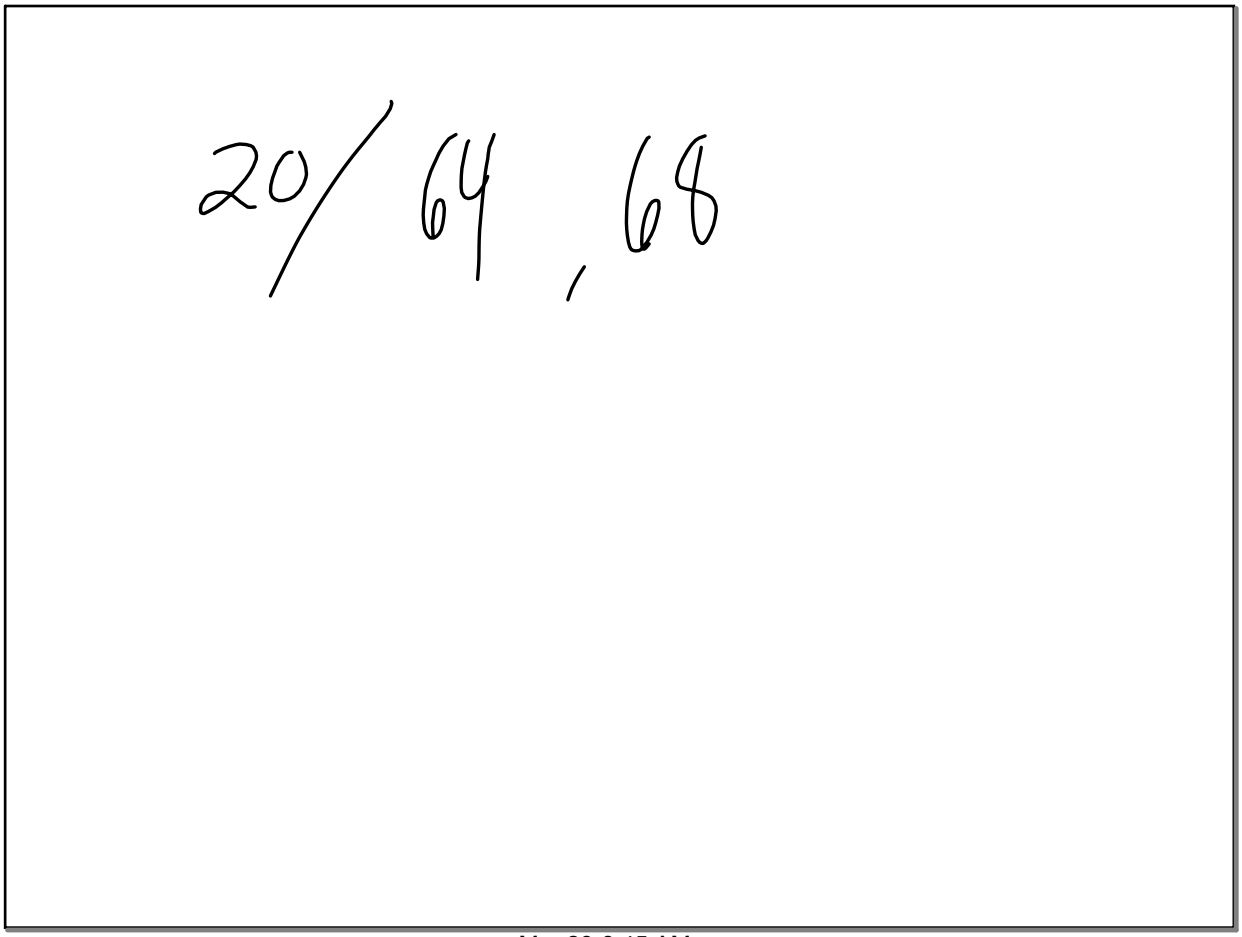

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