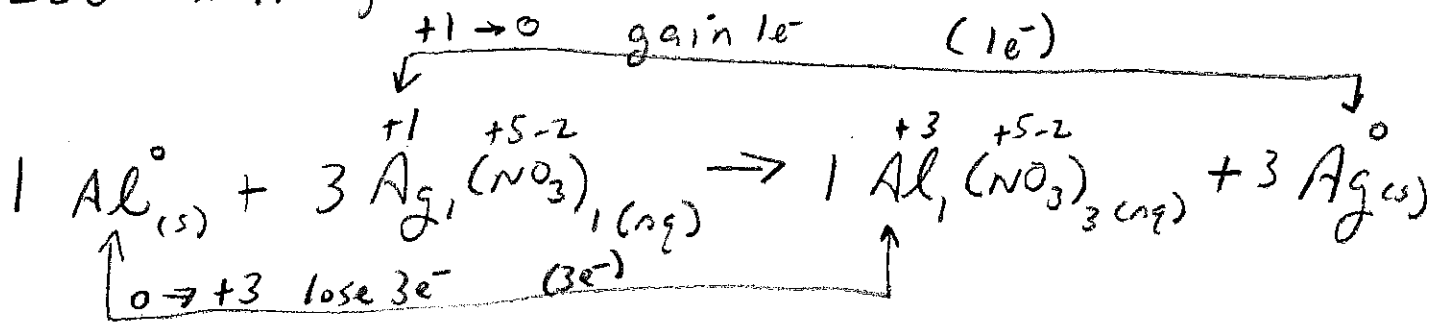


LEO the lion goes GER and is a FAT CAT



Al<sup>0</sup> is oxidized      Ag<sup>+</sup>(NO<sub>3</sub>)<sub>1</sub> is oxidizing agent  
Ag<sup>+</sup> is reduced      Al is reducing agent

Look at reaction above, have Al and Ag metal. So look at Standard Reduction Potential Table to get

$$\text{Al}^{+3} + 3e^- \rightarrow \text{Al}^0 \quad E^\circ = -1.66\text{V}$$

$$\text{Ag}^{+1} + 1e^- \rightarrow \text{Ag}^0 \quad E^\circ = 0.80\text{V}$$

Since one of these is oxidized (Al), need to reverse rxn and change sign of volt.

Rule: Most "+" V for  $E^\circ_{\text{cell}}$  will occur.

$$1 \text{ Al}^0 \rightarrow 1 \text{ Al}^{+3} + 3e^- \quad E^\circ = -(-1.66\text{V}) = 1.66\text{V}$$

$$3 \text{ Ag}^{+1} + 3e^- \rightarrow 3 \text{ Ag}^0 \quad E^\circ = 0.80\text{V}$$

$$3 \text{ Ag}^{+1} + 1 \text{ Al}^0 \rightarrow 1 \text{ Al}^{+3} + 3 \text{ Ag}^0 \quad E^\circ_{\text{cell}} = 2.46\text{V}$$

even though multiplied 3 thru rxn so e<sup>-</sup> lost/gain balanced DID NOT CHANGE VOLT.

