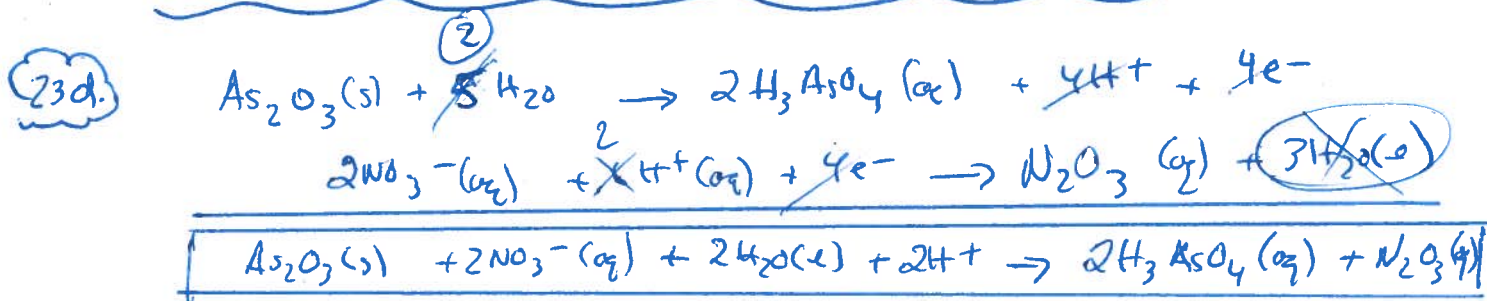
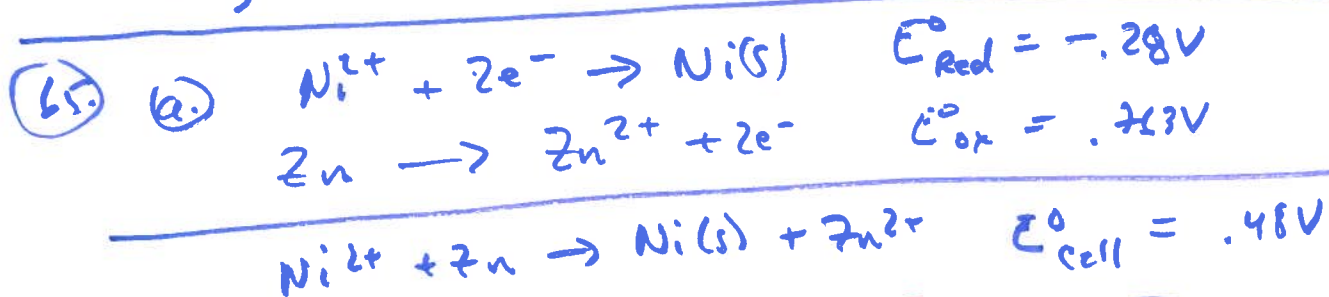


④ Electrochem Text Probs 23d, 79, 43d, 65 ④



43d The reduction potential of IO_3^- is 1.195V
 " " " " BrO_3^- is 1.52V

So the stronger the Reducing agent the more easily oxidized
 So look for the smaller Reduction potential (1.195V).
 IO_3^- is the better R.A



(b)
$$E = E^\circ - \frac{.0592}{n} \log \frac{[\text{Zn}^{2+}]}{[\text{Ni}^{2+}]}$$

$$E = .48\text{V} - \frac{.0592}{2 \text{ mole e}^-} \log \left(\frac{.100}{3.00} \right) = .53\text{V}$$

(c)
$$E = .48 - \frac{.0592}{2} \log \left(\frac{.200}{.200} \right) = .46\text{V}$$

79. (a) E_{red}° for Cd (-.40V) is less negative than E_{red}° for Zn (-.76V)
 So E_{cell} will have a smaller (less +) value

(b) NiMH batteries use an alloy such as ZnNi₂ as the anode material. Then no disposal probs w/ Cd!