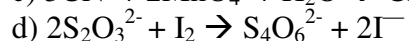
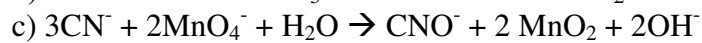
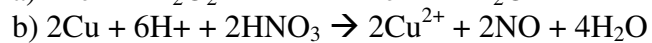
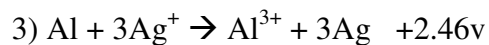


Answers:

1)



2) 2.71v



4) yes

5) Cl_2 and MnO_4^- because they both are more positive than 1.23v

6)

a) 2.47v spontaneous

b) -1.21v not spontaneous

c) -1.05v spontaneous

d) 0.62v spontaneous

7) a) Au^+ b) Ag^+ c) Cd^{2+} d) O_2 in acidic

8) a) Li b) H_2 c) Fe^{2+} d) Br^-

9) $k = 3 \times 10^{54}$

10) 0.369 v

11)

a) $\Delta G = -432 \text{ kJ/mol}$ $k = 5 \times 10^{75}$

b) $\Delta G = -104 \text{ kJ/mol}$ $k = 2 \times 10^{18}$

c) $\Delta G = -178 \text{ kJ/mol}$ $k = 1 \times 10^{31}$

d) $\Delta G = -1270 \text{ kJ/mol}$ $k = 8 \times 10^{211}$

12) 1.09 v

13)

a) $E^\circ = 2.23\text{v}$ $E = 2.23\text{v}$ $\Delta G = -430 \text{ kJ/mol}$

b) $E^\circ = 0.02\text{v}$ $E = 0.04\text{v}$ $\Delta G = -23 \text{ kJ/mol}$