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• Consider the following half-reactions and their standard reduction potentials.

$$2ClO_3^- + 12H^+ + 10e^- \rightarrow Cl_2 + 6H_2O$$

$$E^{\circ} = 1.47 \text{ V}$$

$$S_2O_8^{2-} + 2e^- \rightarrow 2SO_4^{2-}$$

$$E^{\circ} = 2.01 \text{ V}$$

Give the overall cell reaction.

Calculate ΔG° and hence the value of K_c for the cell reaction at 298 K.

 $\Delta G^{\circ} =$

 $K_{\rm c} =$