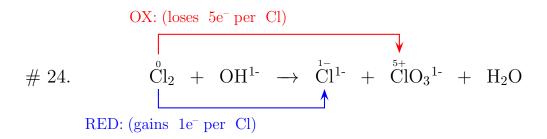
# 24. 
$$\mathring{\text{Cl}}_{2} + \text{OH}^{1-} \rightarrow \mathring{\text{Cl}}^{1-} + \mathring{\text{Cl}}\text{O}_{3}^{1-} + \text{H}_{2}\text{O}$$

1. Assign oxidation states.



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OX: (loses 5e<sup>-</sup> per Cl) x 1 = 5e<sup>-</sup> total

# 24. 
$$3 \stackrel{\circ}{\text{Cl}}_2 + 6 \text{ OH}^{1-} \rightarrow 5 \stackrel{\circ}{\text{Cl}}^{1-} + \stackrel{5+}{\text{Cl}}\text{O}_3^{1-} + \text{H}_2\text{O}$$

RED: (gains 1e<sup>-</sup> per Cl) x 5 = 5e<sup>-</sup> total

6- = 5- + 1-

- 1. Assign oxidation states.
- 2. Identify the losers and gainers.
- 3. Balance the number of electrons lost and gained (pay attention to any additional stoichiometric considerations).
- 4. Balance the remainder of the equation using:
  - charge balance if ions are present

OX: (loses 5e<sup>-</sup> per Cl) x 1 = 5e<sup>-</sup> total 
$$\begin{array}{c} & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ &$$

- 1. Assign oxidation states.
- 2. Identify the losers and gainers.
- 3. Balance the number of electrons lost and gained (pay attention to any additional stoichiometric considerations).
- 4. Balance the remainder of the equation using:
  - charge balance if ions are present
  - other atoms
  - hydrogen
  - oxygen