Culver City H.S. • AP Chemistry

Name KEY
Period ___ Date ___/___/___

18 • Electrochemistry

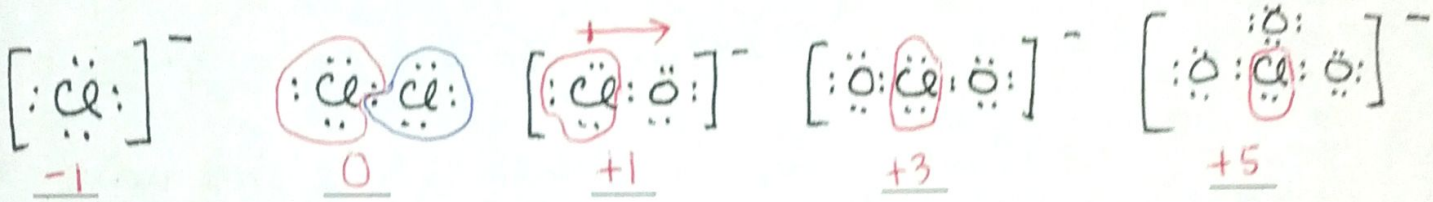
REDOX REVIEW

Redox definitions:

Reduction results in a gain (loss/gain) of electrons. **Oxidation** results in a loss (loss/gain) of electrons.

Assigning oxidation numbers:

Oxidation number is the charge an atom **would have** if any shared electrons are assigned to the **more electronegative atom**. Look at these examples and assign an oxidation number to the Cl in each case.



-1 0 +1 +3 +5

When an atom is **oxidized**, it acts as a **reducing agent**. When an atom is **reduced**, it is an **oxidizing agent**.

Which of the above chemicals would probably be the strongest **oxidizing agent**? ClO_3^-

Determine the oxidation number of the underlined element. Answers are given below:

1. $\underline{Be}Cl_2$ (+2 -1)
2. $\underline{N}O$ (+2 -2)
3. $Na_2\underline{S}O_3$ (+1 +4 -2)
4. $H_2\underline{O}_2$ (+1 -1)
5. $\underline{Ag}Br$ (+1 -1)
6. $\underline{Au}Cl_3$ (+3 -1)
7. $H\underline{N}O_3$ (+1 +5 -2)
8. $H_2\underline{Sn}O_3$ (+1 +4 -2)
9. $\underline{S}O_3$ (+6 -2)
10. $\underline{U}F_6$ (+6 -1)
11. $BaCrO_4$ (+2 +6 -2)
12. $CaSeO_4$ (+2 +6 -2)
13. $\underline{H}I$ (+1 -1)
14. $H_2\underline{Se}$ (+1 -2)
15. $K_2\underline{Pt}Cl_6$ (+1 +4 -1)
16. $\underline{Ni}SO_4$ (+2 +6 -2)
17. $\underline{N}H_3$ (-3 +1)
18. $H\underline{Cl}O$ (+1 +1 -2)
19. $\underline{N}H_4Cl$ (-3 +1 -1)
20. $(NH_4)_2\underline{Te}$ (-3 +1 -2)

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1. +2
2. +2
3. +4
4. –1
5. –1
6. +3
7. +5
8. +4
9. +6
10. +6
11. +6
12. +6
13. –1
14. –2
15. +4
16. +2
17. –3
18. +1
19. –3
20. –2