1) Review problems

2) Review oxidation state rules

3) Go over log and exponent rules

4) Half reaction example

5) Water Chemistry

1) REVIEW PROBLEMS

2) OXIDATION STATE RULES

H <u>almost</u> always has a charge of +1

Except: H_2

O <u>almost</u> always has a charge of -2

Except: O_2

H_2O_2 -1 (see rule 1)

So, if a compound has no overall charge then all charges must cancel.

HCl

H_2SO_4

HNO_3

If a compound has a charge the overall charge must be the end result.

NH_4^+

NO_3^-

$Cr_2O_7^{2-}$

3a) LOGARITHM RULES

$\log 10^a = a$

$\log (b * c) = \log b + \log c$

$\log (b / c) = \log b - \log c$

Solve (with and without calc.)

$\log 10$ **$\log 10^{-6}$**

$\log 10^{50}$ **$-\log 100$**

$\log x = 2$

3b) EXPONENT RULES

$a^b * a^c = a^{b+c}$

$a^b / a^c = a^{b-c}$

$(a^b)^c = a^{b*c}$

4) HALF REACTION EXAMPLE

$H_2 + O_2 = H_2O$

Balanced (easy one)

$2H_2 + O_2 = 2H_2O$

Oxidation states?

How many electrons are transferred?

$O_2 + 4e^- + 4H^+ = H_2O$

$2H_2 = 4H^+ + 4e^-$