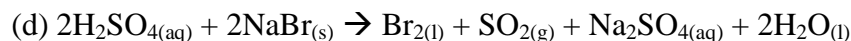
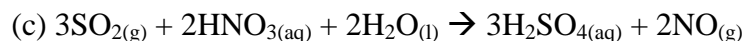
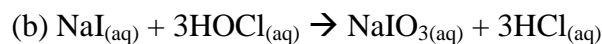
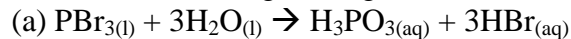


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Name _____ Per ____

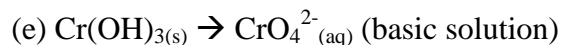
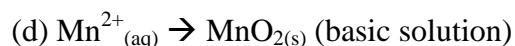
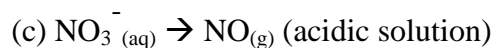
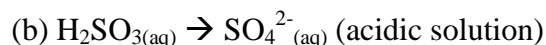
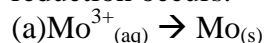
1. Indicate whether the following balanced equations involve oxidation-reduction. If they do, identify the elements that undergo changes in oxidation number.



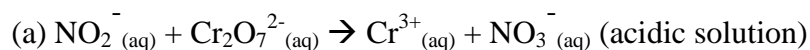
2. Hydrazine, N_2H_4 , and dinitrogen tetroxide form a self-igniting mixture that has been used as a rocket propellant. The reaction produces N_2 and H_2O . (a) Write a balanced chemical equation for this reaction.

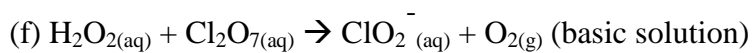
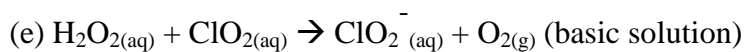
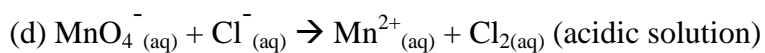
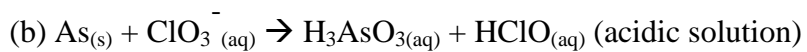
(b) Which substance serves as the reducing agent, and which as the oxidizing agent?

3. Complete and balance the following half-reactions. In each case indicate whether oxidation or reduction occurs.



4. Complete and balance the following equations, and identify the oxidizing and reducing agents:





5. Using $K_{sp} = 6 \times 10^{-51}$ for Ag_2S , $K_{a1} = 9.5 \times 10^{-8}$ and $K_{a2} = 1 \times 10^{-19}$ for H_2S , and $K_f = 1.1 \times 10^5$ for AgCl_2^- , calculate the equilibrium constant for the reaction:

