Learning Guide to Chapter 19

Acids and Bases

Name _____

Class _____

Date _____

A. Defining Acids and Bases

A Brønsted acid is defined as a substance that donates a proton (H^+ ion) to another substance. A Brønsted base accepts a proton from another substance. For each of the following reactions, draw an arrow below the equation to represent proton transfer between the reactants. Then identify the conjugate acid-base pairs.

		Acid	Base
1. $CH_3COOH + H_2O \longrightarrow H_3O^+ + CH_3COO^-$	Conjugate pair	_____	
	Conjugate pair		_____
2. $HCl + SO_3^{2-} \longrightarrow HSO_3^- + Cl^-$	Conjugate pair	_____	
	Conjugate pair		_____
3. $NH_3 + HNO_2 \longrightarrow NO_2^- + NH_4^+$	Conjugate pair	_____	
	Conjugate pair		_____
4. $NH_4^+ + CO_3^{2-} \longrightarrow HCO_3^- + NH_3$	Conjugate pair	_____	
	Conjugate pair		_____
5. $HClO + SO_4^{2-} \longrightarrow HSO_4^- + ClO^-$	Conjugate pair	_____	
	Conjugate pair		_____
6. $HSO_4^- + OH^- \longrightarrow H_2O + SO_4^{2-}$	Conjugate pair	_____	
	Conjugate pair		_____

7. a. List the letters of any of the properties in the box that follows that are typical of an acid solution.

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b. List the letters of any of the properties in the box that follows that are typical of a base solution.

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