

Name: _____

Chemistry 30

Unit 5: Acids & Bases

Assignment 1: An Introduction to Acids & Bases

1. What is the difference between a strong electrolyte and a weak electrolyte? For your answer you should define these terms and explain what makes an electrolytic solution strong or weak.

2. Classify each of the following as either an acid or a base:

a. The substance has a bitter taste

b. H_2SO_4

c. HNO_3

d. litmus paper dipped in this turns red

e. reacts with active metals to produce hydrogen gas

f. KOH

g. NH_3

h. has a slippery feel

i. has a sour taste

j. a proton donor

k. a proton acceptor

3. Define amphoteric.

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4. Write balanced equations for each of the following:

a. The dissociation of potassium hydroxide, KOH

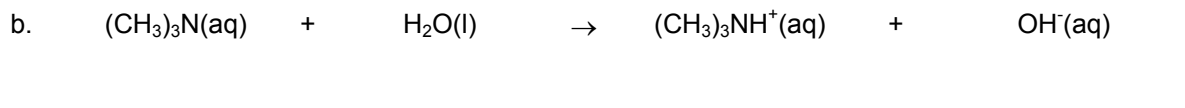
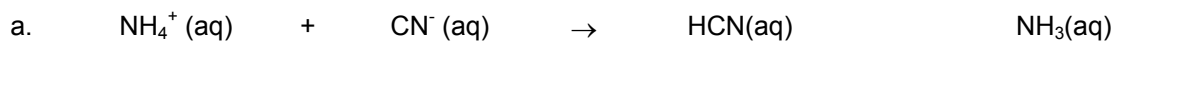
b. The ionization of formic acid, HCOOH without including water as a reactant

c. The ionization of formic acid, HCOOH, showing the formation of the hydronium ion

5. For each of the following bases, write the formula for its conjugate acid; for each acid write the formula of the conjugate base.

	Base	Conjugate Acid	Acid	Conjugate Base
a.	I^-	_____	HClO_4	_____
b.	SO_3^{2-}	_____	H_2S	_____
c.	PO_4^{3-}	_____	HCO_3^-	_____
d.	$\text{C}_2\text{H}_3\text{O}_2^-$	_____		

6. For each of the following reactions, identify each substance as a Brønsted-Lowry acid or Brønsted-Lowry base (on the reactant side of the equation), and as a conjugate acid or conjugate base (product side).



7. Predict the product of the following acid-base reaction

