

- 1) For each description below, write **acid** if it tells about a property of an acid or **base** if it tells about a property of a base. If the property does not apply to either an acid or a base, write **neither**. If it applies to both an acid and a base, write **both**.

- _____ a) Can turn litmus paper a different color
_____ b) Reacts with certain metals to release H₂ gas
_____ c) Contains more hydrogen ions than hydroxide ions
_____ d) Feels slippery
_____ e) Reacts with carbonates
_____ f) Feels rough
_____ g) Contains equal numbers of hydrogen and hydroxide ions
_____ h) Tastes bitter
_____ i) Tastes sour
_____ j) Acts as an electrolyte

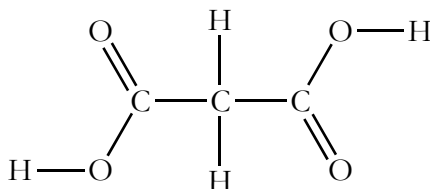
- 2) How do the concentrations of hydrogen ion and hydroxide ion determine whether a solution is acidic, basic, or neutral?

- 3) In the Arrhenius model, an acid contains _____ and produces _____ in aqueous solutions. Write an example of an Arrhenius acid ionization:

- 4) In the Arrhenius model, a base contains _____ and produces _____ in aqueous solutions. Write an example of an Arrhenius base ionization:

- 5) Arrhenius acids & bases are considered _____ (like ionic compounds) because their solutions conduct electricity. What do their solutions contain that enables them to do this? Why does pure H₂O not conduct electricity (what is it missing)?

- 6) Only polar H atoms will dissociate in aqueous solution. On the Lewis structure below, write in the partial charges (δ^+ / δ^-) and identify any hydrogen atoms that are likely to be ionizable (able to dissociate).



- 7) Based on their formulas, which of the following compounds *could* be Arrhenius acids: CH₄, SO₂, H₂S, Ca₃(PO₄)₂, HClO₃, C₆H₅COOH? Explain your reasoning.