

Chem12 Acids : Quiz 1a-120

- 1) Give 4 properties of bases.
- 2) What color does an acid turn litmus into?
- 3) Give the Bronsted-Lowry definition of an acid.
- 4) Give the Arrhenius definition of a base.
- 5) Write the dissociation equation for $\text{Sr}(\text{OH})_2$.
- 6) Write the balanced neutralization reaction : $\text{HNO}_3 + \text{Ba}(\text{OH})_2 \rightarrow$
- 7) Write the dissociation equation for NaNH_2 (two steps).
- 8)a) What common compound is found in Draino?
b) How does Draino work?
- 9)a) Give the name of any weak acid.
b) Give the formula of its conjugate base.
c) What is the K_a value for this acid?
- 10) What is the definition of an "amphiprotic" substance?
- 11) True or false : In any acid-base reaction the stronger acid and base will be favored at equilibrium.

12) What is the numerical value of K_w ?

13) Give the equilibrium expression for K_w .

14) Calculate $[H_3O^+]$ if 60. mL of 0.38M HNO_3 is mixed with 150. mL of 0.070M $Sr(OH)_2$.

15) $pH + pOH =$ _____

16)a) Find the pH if $[H_3O^+] = 4.5 \times 10^{-7}$.

b) If $pOH = 9.3$, find $[H_3O^+]$.

Answers : 1) Bitter taste, electrolyte, feels slippery, turns litmus blue.
2) red, 3) proton donor, 4) produces OH^- ions, 5) $Sr(OH)_2 \rightarrow Sr^{2+} + 2OH^-$, 6) $2HNO_3 + Ba(OH)_2 \rightarrow Ba(NO_3)_2 + 2H_2O$, 7) $NaNH_2 \rightarrow Na^+ + NH_2^-$; $NH_2^- + H_2O \rightarrow NH_3 + OH^-$, 8)a) NaOH, b) It causes a chemical reaction that turns insoluble substances such as fats and proteins into soluble substances., 9)a) Many examples. See table. e.g. HF, b) F^- , c) 3.5×10^{-4} , 10) It is a substance that can be a donor or an acceptor of protons., 11) False, 12) 10^{-14} , 13) $K_w = [H_3O^+][OH^-]$, 14) 0.0086 M, 15) 14, 16)a) 6.3, b) 2.0×10^{-5} M.