**9. Acids & Bases homework problems (Physical Science)**

Name and date submitted (3 pts):

Instructions: Using this form as a template, create space in the document below and write or type your answers. Turn in your completed work as an email attachment.

(28 questions, 100 points possible).

Most of these answers are in your book, but you may also use the Internet.

1. Give the common name for each of these important acids
   1. HCl example: ‘hydrochloric acid’
   2. H2SO4
   3. HNO3
   4. HC2H3O2
   5. HF
2. Now do the same for each of these important bases
   1. NaOH
   2. KOH
   3. Ca(OH)2
   4. NH4OH
3. What ion is characteristic of acids?
   1. Hydroxide
   2. Hydrogen
   3. Hydrolyte
   4. Electrolyte
4. Which of the following is a weak base?
   1. NaOH
   2. NH4OH
   3. HCl
   4. KOH
5. What color does a pH-indicating strip (like we have used many times in lab) turn when dipped in acid?
   1. Green
   2. Blue
   3. Black
   4. Red
6. What color does a pH-indicating strip (like we have used many times in lab) turn when dipped in a base?
   1. Green
   2. Blue
   3. Black
   4. Red
7. What kind of acid is in your stomach?
   1. Formic
   2. Hydrochloric
   3. Nitric
   4. Osmotic
8. True/False: “Acids neutralize bases”
9. True/False: “Acids dissolve metals”
10. What are base ions?
    1. Nitrate ions
    2. Hydrogen ions
    3. Chloride ions
    4. Hydroxide ions
11. When you combine a strong acid with a strong base, you get a
    1. Stronger acid
    2. Halogen
    3. Salt
    4. Stronger base
12. What is formed when a hydroxide ion combines with a hydrogen ion?
    1. A water molecule
    2. A base
    3. An acid
    4. A hydrocarbon
13. What color does phenolphthalein indicator turn when it is added to a basic solution?
    1. Pink
    2. Green
    3. Blue
    4. Clear
14. What is the most essential industrial acid used the world-over?
    1. Hydrochloric
    2. Phosphoric
    3. Nitric
    4. Sulfuric
15. pH is defined as the measurement of the concentration of what ion?
    1. Hydronium
    2. Hydroxide
    3. Base
    4. Acid
16. What makes a green apple taste sour?
    1. The presence of fructose
    2. The presence of an acid
    3. The presence of a base
    4. The presence of a salt
17. What does a molecule of hydrochloric acid donate to water (when it is dissolved in the water)?
    1. An electron
    2. A proton
    3. A neutron
    4. An atom
18. What does a proton make when it is added to a water molecule?
    1. A hydroxide ion
    2. A base
    3. A hydroproton ion
    4. A hydronium ion
19. What is another name for the base ‘sodium hydroxide’?
    1. Lime
    2. Caustic soda
    3. Household ammonia
    4. Oil of vitriol
20. Which salt is table salt?
    1. Calcium chloride
    2. Sodium chloride
    3. Magnesium chloride
    4. Potassium chloride
21. What do you call the process of an acid and a base canceling each other?
    1. Ionization
    2. Indication
    3. Hydrogenation
    4. Neutralization

Determine which definition best matches each of the following terms:

1. Acids are defined as A. Hydroxide acceptors
2. Bases are defined as B. Proton donors

C. Proton acceptors

D. Salts

Determine which description best matches each of the following tastes:

1. Acids taste A. Sweet
2. Bases taste B. Bitter

C. Sour

D. Salty

Determine which term best matches each of the following descriptions:

1. A pH of 7 means A. Acid
2. A pH of 1 means B. Neutral
3. A pH of 14 means C. Base

D. Can’t tell