

Acids & Bases**PRACTICE TEST**

Describe these household substances:

- a) acidic
- b) basic
- c) neutral

- 1. Tap Water C
- 2. Vinegar A
- 3. Rubbing Alcohol B
- 4. Mr. Clean B
- 5. Household ammonia B

Questions 6 - 10

Match the household chemical with its formula

- D 6. Vinegar a) NaOH
- C 7. Pool Acid b) NaHCO_3
- C 8. Rubbing Alcohol c) HCl
- A 9. Drano d) $\text{HC}_2\text{H}_3\text{O}_2$
- B 10. Baking Soda e) $\text{C}_3\text{H}_7\text{OH}$

11. A substance that turns cabbage juice blue and only slightly lights up a light bulb is a:

- a) strong acid c) weak acid
- b) strong base d) weak base

12. Which of the following substances is a base?

- a) H_2O c) $\text{Ca}(\text{OH})_2$
- b) $\text{HC}_2\text{H}_3\text{O}_2$ d) H_2SO_4

13. When an acid and a base react, the products are

- a) salt and water c) base and acid
- b) salt and base d) water and acid

14. When NaOH is mixed with H_2SO_4 , one of the products is

- a) NaSO_4 c) H_2
- b) H_2OH d) Na_2SO_4

15. A property of acids are that they

- a) taste sour c) feel slippery
- b) taste bitter d) neutralize water

16. How many grams of sodium hydroxide pellets, NaOH, are required to prepare 50.0 mL of a 0.150 M solution?

- a) 0.300 c) 3.00
- b) 2.00 d) 200.

17. If 50 mL of a 200 mL sample of 0.10 M sodium chloride solution is spilled, what is the concentration of the remaining solution?

- a) 0.20 M c) 0.075 M
- b) 0.10 M d) 0.025 M

18. A common laundry bleach is 0.700 M sodium hypochlorite, NaOCl. Which one of the following statements is true?

- a) NaOCl is the solvent.
- b) The solution can be made by mixing 0.700 moles of NaOCl with 1.00 liter of water.
- c) A 0.500 Liter sample of bleach would contain 0.350 moles of NaOCl.
- d) Each of these statements is true.

19. What is the hydrogen ion concentration, $[H^+]$, of a solution in which the pH is 5?
- a) $5 \times 10^2 \text{ M}$ c) $5 \times 10^{-1} \text{ M}$
 b) $1 \times 10^5 \text{ M}$ **d) $1 \times 10^{-5} \text{ M}$**

28. Using the substances in #37, identify the acid, base, and salt in the reaction.

Acid: HNO_3
 Base: $Ba(OH)_2$
 Salt: $Ba(NO_3)_2$

20. When an acid is added to a solution of a base, what change in pH of the solution could be observed?
- a) An increase from 7 to 8
 b) An increase from 3 to 8
 c) A decrease from 7 to 6
d) A decrease from 9 to 5

21. What is the pH of 0.001 M HCl?
- a) 1 **c) 3**
 b) 2 d) 4

Consider the household product:

Vinegar, $HC_2H_3O_2$

22. Is it an **acid** or a **base**? Acid
23. **Circle** the portion of the formula that makes it an acid or a base.
24. A solution has an $[H^+] = 0.000100 \text{ M}$. What is the $[OH^-]$? ____
- a) 1×10^{-3} c) 1×10^{-14}
 b) 1×10^{-4} **d) 1×10^{-10}**
25. A $1 \times 10^{-3} \text{ M}$ NaOH solution has an $[H^+] =$ ____
- a) 1×10^{-3} **c) 1×10^{-11}**
 b) 1×10^{-7} d) 1×10^{-14}
26. A $1 \times 10^{-2} \text{ M}$ HCl solution has an pH = ____
- a) 2** b) 3 c) 7 d) 12

Answers:

1.		11.		21.	
2.		12.		22.	
3.		13.		23.	
4.		14.		24.	
5.		15.		25.	
6.		16.		26.	
7.		17.		27.	
8.		18.		28.	
9.		19.			
10.		20.			

