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Name:	Class:	Date:	ID: A

Acid-Base Practice Questions

Multi	nle	Cho	ice
IVLUILL	DIC		1100

dentify the choice that	best completes i	the statement or	answers the question.

1.	When an acid reacts with a base, what compo	unds	are formed?
	a. a salt only	c.	metal oxides only
	b. water only	d.	a salt and water
 2.	Which of the following is a property of an acid	d?	
	a. sour taste	c.	strong color
	b. nonelectrolyte	d.	unreactive
 3.	What is a property of a base?		
	a. bitter taste	c.	strong color
	b. watery feel	d.	unreactive
 4.	The formula of the hydrogen ion is often writt	en as	s
	a. H_2O^+	c.	H⁺
	b. OH ⁺	d.	H_4N^+
 5.	What is an acid according to Arrhenius? a. a substance that ionizes to yield protons in b. a substance that is a hydrogen ion donor c. a substance that accepts an electron pair d. a substance that is a hydrogen ion acceptor.	•	eous solution
 6.	Which of these is an Arrhenius base?		
	a. LiOH	c.	H ₂ PO ₄
	b. NH ₃	d.	СН,СООН
7.	What type of acid is sulfuric acid?		
	a. monoprotic	c.	triprotic
	b. diprotic	d.	none of the above
 8.	What is the charge on the hydronium ion?		
	a. 2-	c.	0
	b. 2-	d.	1+
 9.		is 10	$0^{-10}M$, is the solution acidic, alkaline, or neutral?
	a. acidic	c.	neutral
	b. alkaline	d.	The answer cannot be determined.
 10.	The products of self-ionization of water are	·	
	a. H_3O^+ and H_2O	c.	OH ⁺ and H ⁻
	h OH- and OH+	A	OU- and U+

	11	In a neutral solution, the [H ⁺] is		
	11.		^	$1 \times 10^7 M$
				equal to [OH ⁻]
		b. zero	u.	equal to [OII]
	12.	What is the best description for a solution with a hydroxide-ion concentration of $1 \times 10^{-4} M$?		
		a. acidic	c.	neutral
		b. basic	d.	The answer cannot be determined.
	13.	What is pH?		
		a. the negative logarithm of the hydrogen ion	con	centration
		b. the positive logarithm of the hydrogen ion	con	centration
		c. the negative logarithm of the hydroxide ior		
		d. the positive logarithm of the hydroxide ion	cor	acentration
	14.	Which type of solution is one with a pH of 8?		
		a. acidic		
		b. basic		
		c. neutral		
		d. The type varies, depending on the solution	•	
	15.	Which of these solutions is the most basic?		
		a. $[H^+] = 1 \times 10^{-2} M$	c.	$[H^+] = 1 \times 10^{-11} M$
		b. $[OH^-] = 1 \times 10^{-4} M$	d.	$[OH^{-}] = 1 \times 10^{-13} M$
	16.	What characterizes a strong acid or base?		
		a. polar covalent bonding		
		b. complete ionization in water		
		c. ionic bonding		
		d. presence of a hydroxide or hydrogen ion		
	17.	With solutions of strong acids and strong bases,	the	word strong refers to .
		a. normality	c.	solubility
		b. molarity	d.	degree of ionization
	18.	Which of the following pairs consists of a weak	aci	d and a strong base?
			c.	.
		b. acetic acid, ammonia	d.	
	10	A base has a K_b of 2.5×10^{-11} . Which of the fo	11	din a statementa la tima 0
	17.	a. This is a concentrated base.	IIOW	ring statements is true?
		b. This base ionizes slightly in aqueous soluti	Ωn	
		c. This is a strong base.	OII.	
		d. An aqueous solution of this base would be	acid	lic.
,	20.	The process of adding a known amount of column	ion	of known concentration to determine the concentration of
<u> </u>	ムV.	The process of adding a known amount of solut	IUII	of known concentration to determine the concentration of
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		another solution is called a. neutralization	c.	titration

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- 21. In a titration, when the number of moles of hydrogen ions equals the number of moles of hydroxide ions, what is said to have happened?
 - a. The equivalence point has been reached.
 - b. The end point has been reached.
 - c. The point of neutralization has been reached.
 - d. The titration has failed.
 - 22. What kind of ion is contained in salts that produce an acidic solution?
 - a. a positive ion that releases a proton to water
 - b. a negative ion that releases a proton to water
 - c. a positive ion that attracts a proton from water
 - d. a negative ion that attracts a proton from water

Short Answer

- 23. If the $[H^+]$ in a solution is 1×10^{-1} mol/L, what is the $[OH^-]$?
- 24. If the pH is 9, what is the concentration of hydroxide ion?

Numeric Response

- 25. If the hydrogen ion concentration is $10^{-7}M$, what is the pH of the solution?
- 26. If the hydroxide ion concentration is $10^{-10}M$, what is the pH of the solution?
- 27. If $[OH^-] = 1 \times 10^{-4} M$, what is the pH of the solution?
- 28. What is the pH of a solution with a concentration of 0.01M hydrochloric acid?