



Name _____ Class _____ Date _____

1 Which of the following is the **strongest Brönsted-Lowry base**?

- A I^-
- B Br^-
- C Cl^-
- D F^-



2 In the reaction $NH_3 + HCl \rightarrow NH_4^+ + Cl^-$, the NH_3 acts as

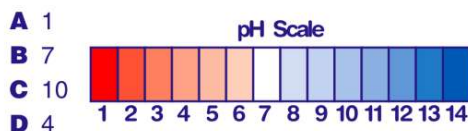
- A a Brönsted acid, only
- B a Brönsted base, only
- C both a Brönsted acid and a Brönsted base
- D neither a Brönsted acid nor a Brönsted base

3 As an **acid solution** is added to neutralize a **base solution**, the OH^- concentration of the base solution

- A decreases
- B increases
- C remains the same



4 The **pH of a solution** that is formed by the **neutralization** of **1.0 M H_2SO_4** and **1.0 M KOH** is closest to



5 Both $HNO_3(aq)$ and $CH_3COOH(aq)$ can be classified as

- A Arrhenius acids that turn blue litmus red
- B Arrhenius bases that turn blue litmus red
- C Arrhenius acids that turn red litmus blue
- D Arrhenius bases that turn red litmus blue

6 What is the **molarity** of a nitric acid solution, HNO_3 , if 20.0 mL of the solution is needed to exactly **neutralize** 10.0 mL of a 1.67 M NaOH solution?

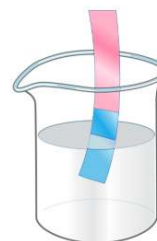
- A 3.34 M
- B 1.67 M
- C 0.835 M
- D 0.334 M

7 Which **compound** is classified as an **electrolyte**?

- A $C_6H_{12}O_6$
- B $C_{12}H_{22}O_{11}$
- C CH_3OH
- D $Ca(OH)_2$

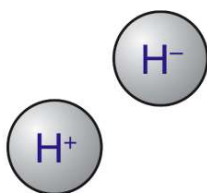
8 Which substance is an **Arrhenius base**?

- A KCl
- B CH_3Cl
- C KOH
- D CH_3OH



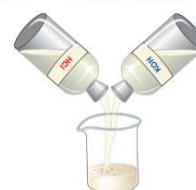
9 One **acid-base theory** states that an **acid** is

- A an H^- donor
- B an H^- acceptor
- C an H^+ donor
- D an H^+ acceptor



10 What is the **pH** of a solution that results from the **complete neutralization** of an **HCl solution** with a **KOH solution**?

- A 1
- B 7
- C 10
- D 4





ANSWER KEY

Which of the following is the **strongest** Brönsted-Lowry base?

- A I^-
- B Br^-
- C Cl^-
- D F^-

**(d)**

In the reaction $NH_3 + HCl \rightarrow NH_4^+ + Cl^-$, the NH_3 acts as

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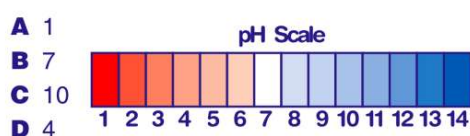
(b)

As an **acid solution** is added to neutralize a **base solution**, the OH^- concentration of the base solution

- A decreases
- B increases
- C remains the same

**(a)**

The **pH** of a solution that is formed by the **neutralization** of **1.0 M H_2SO_4** and **1.0 M KOH** is closest to

**(b)**

Both $HNO_3(aq)$ and $CH_3COOH(aq)$ can be classified as

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(a)

What is the **molarity** of a nitric acid solution, HNO_3 , if 20.0 mL of the solution is needed to exactly **neutralize** 10.0 mL of a 1.67 M NaOH solution?

- A 3.34 M
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- C 0.835 M
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(c)

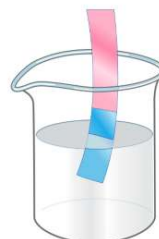
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(d)

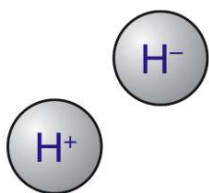
Which substance is an **Arrhenius base**?

- A KCl
- B CH_3Cl
- C KOH
- D CH_3OH

**(c)**

One **acid-base theory** states that an **acid** is

- A an H^- donor
- B an H^- acceptor
- C an H^+ donor
- D an H^+ acceptor

**(c)**

What is the **pH** of a solution that results from the **complete neutralization** of an **HCl solution** with a **KOH solution**?

- A 1
- B 7
- C 10
- D 4

**(b)**