

**Given:  $\text{NaOH}_{(\text{aq})}$  and  $\text{NH}_3_{(\text{aq})}$**

1) Refer to Table **L**

a) State **three** properties that these bases have in common.

b) Which of these bases is **stronger**? How could you prove this experimentally?

2) Given:  $\text{Ba}(\text{OH})_2$  and  $\text{Al}(\text{OH})_3$

Based on Table **F**, which of these bases is the **strongest**? Explain.

3) According to **Arrhenius**, what ion is responsible for basic properties?

4) Which of the following oxides is basic?

a)  $\text{N}_2\text{O}_4$       b)  $\text{Cl}_2\text{O}_7$       c)  $\text{SrO}$       d)  $\text{NO}_2$

Name: \_\_\_\_\_

- 1) A substance is classified as an electrolyte because
  - A) it contains covalent bonds
  - B) its aqueous solution has a pH value of 7
  - C) its aqueous solution conducts an electric current
  - D) it has a high melting point
- 2) An Arrhenius base yields which ion as the only negative ion in an aqueous solution?
  - A) hydronium ion
  - B) hydride ion
  - C) hydrogen ion
  - D) hydroxide ion
- 3) An aqueous solution of lithium hydroxide contains hydroxide ions as the only negative ion in the solution. Lithium hydroxide is classified as an
  - A) alcohol
  - B) Arrhenius base
  - C) aldehyde
  - D) Arrhenius acid
- 4) The compound NaOH(s) dissolves in water to yield
  - A) hydroxide ions as the only negative ions
  - B) hydroxide ions as the only positive ions
  - C) hydronium ions as the only positive ions
  - D) hydronium ions as the only negative ions
- 5) Which of the following substances is an Arrhenius base?
  - A)  $\text{CH}_3\text{Cl}$
  - B)  $\text{CH}_3\text{OH}$
  - C)  $\text{LiCl}$
  - D)  $\text{LiOH}$
- 6) Which compound releases hydroxide ions in an aqueous solution?
  - A)  $\text{HCl}$
  - B)  $\text{KOH}$
  - C)  $\text{CH}_3\text{COOH}$
  - D)  $\text{CH}_3\text{OH}$
- 7) Which ion is the only negative ion produced by an Arrhenius base in water?
  - A)  $\text{OH}^-$
  - B)  $\text{Cl}^-$
  - C)  $\text{H}^-$
  - D)  $\text{NO}_3^-$

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Name: \_\_\_\_\_

- 1) A student is given two beakers, each containing an equal amount of clear, odorless liquid. One solution is acidic and the other is basic.
  - (a) State *two* safe methods of distinguishing the acid solution from the base solution.
  - (b) For each method, state the results of *both* the testing of the acid solution and the testing of the base solution.