

## CHEMISTRY pH PRACTICE

$$[\text{H}^+][\text{OH}^-] = 10^{-14} \text{ M}$$

$$\text{pH} + \text{pOH} = 14.00$$

- 1) In your own words, describe what pH measures.
  - 2) What is the largest numerical value possible for pH?
  - 3) What is the smallest numerical value possible for pH?
  - 4) What is the numerical value for a neutral pH?
  - 5) Is a pH of 6.7 a strong or weak acid? Why?
  - 6) Is a pH of 13.1 a strong or weak base? Why?
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For questions 7-10, you do not need to show any work.

- 7) A solution has  $[\text{OH}^-]$  of  $1.00 \times 10^{-9} \text{ M}$ .
    - a) Find  $[\text{H}^+]$ .
    - b) Find the pH.
    - c) Find the pOH.
    - d) Is the solution ACID, BASE, or NEUTRAL?
  - 8) A solution has  $[\text{H}^+] = 1.00 \times 10^{-11} \text{ M}$ .
    - a) Find  $[\text{OH}^-]$ .
    - b) Find the pOH.
    - c) Find the pH.
    - d) Is the solution ACID, BASE, or NEUTRAL?
  - 9) A solution has a pOH of 8.
    - a) Find the pH.
    - b) Find  $[\text{H}^+]$ .
    - c) Find  $[\text{OH}^-]$ .
    - d) Is the solution ACID, BASE, or NEUTRAL?
  - 10) A solution has a pH of 7.
    - a) Find  $[\text{OH}^-]$ .
    - b) Find the pOH.
    - c) Find the  $[\text{H}^+]$ .
    - d) Is the solution ACID, BASE, or NEUTRAL?
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MORE →

Questions 11-20 for Chem IH only... You must show an initial setup of parts a-c.

- 11) A solution has  $[H^+] = 3.39 \times 10^{-7} \text{ M}$ .
  - a) Find  $[OH^-]$ .
  - b) Find the pOH.
  - c) Find the pH.
  - d) Is the solution ACID, BASE, or NEUTRAL?
  
- 12) A solution has a pOH of 8.55 .
  - a) Find the pH.
  - b) Find  $[H^+]$ .
  - c) Find  $[OH^-]$ .
  - d) Is the solution ACID, BASE, or NEUTRAL?
  
- 13) A solution has  $[OH^-]$  of  $4.44 \times 10^{-6} \text{ M}$ .
  - a) Find  $[H^+]$ .
  - b) Find the pH.
  - c) Find the pOH.
  - d) Is the solution ACID, BASE, or NEUTRAL?
  
- 14) A solution has a pH of 12.76 .
  - a) Find the pOH.
  - b) Find  $[H^+]$ .
  - c) Find  $[OH^-]$ .
  - d) Is the solution ACID, BASE, or NEUTRAL?
  
- 15) A solution has a pOH of 10.75 .
  - a) Find the pH.
  - b) Find  $[H^+]$ .
  - c) Find  $[OH^-]$ .
  - d) Is the solution ACID, BASE, or NEUTRAL?
  
- 16) A solution has  $[H^+] = 5.12 \times 10^{-8} \text{ M}$ .
  - a) Find  $[OH^-]$ .
  - b) Find the pOH.
  - c) Find the pH.
  - d) Is the solution ACID, BASE, or NEUTRAL?
  
- 17) How many times *more basic* is a change from a pH of 8 to a pH of 12?
  
- 18) How many times *more acidic* is a change from a pH of 5 to a pH of 3?
  
- 19) How many times *less basic* is a change from a pH of 9 to a pH of 6?
  
- 20) How many times *less acidic* is a change from a pH of 0 to a pH of 1?