

## pH Calculations

Name \_\_\_\_\_ Date \_\_\_\_\_ Per \_\_\_\_\_

Remember that you can solve for the pH using the following equation:  $pH = -\log[H_3O^+]$

If you do not know the concentration (molarity, M) then remember:  $Molarity (M) = \frac{mol}{Liter}$

*Find the pH of the following acidic solutions:*

1. A 0.001 M solution of HCl (hydrochloric acid).
2. A 0.09 M solution of HBr (hydrobromic acid).
3. A  $1.34 \times 10^{-4}$  M solution of hydrochloric acid (HCl).
4. A  $2.234 \times 10^{-6}$  M solution of HI (hydroiodic acid).
5. A  $7.98 \times 10^{-2}$  M solution of HNO<sub>3</sub> (nitric acid).
6. 12 L of a solution containing 1 mole of hydrochloric acid (HCl).
7. 735 L of a solution containing 0.34 moles of nitric acid (HNO<sub>3</sub>).
8. 1098 L of a solution containing 8.543 moles of hydrobromic acid (HBr).
9. 660 L of a solution containing .0074 moles of hydrochloric acid (HCl).
10. 120 mL of a solution containing 0.005 grams of hydrochloric acid (HCl).

11. 1.2 L of a solution containing  $5.0 \times 10^{-4}$  grams of hydrobromic acid (HBr).

12. 2.3 L of a solution containing 4.5 grams of nitric acid (HNO<sub>3</sub>).

13. 792 mL of a solution containing 0.344 grams of hydrochloric acid (HCl).

14. 100 mL of a solution containing 1.00 grams of nitric acid (HNO<sub>3</sub>).

15. 8.7 L of a solution containing 1.1 grams of nitric acid (HNO<sub>3</sub>).

16. 1.5 L of a solution containing 5.6 grams of hydroiodic acid (HI).

17. 10.7 L of a solution containing 0.01 grams of hydrochloric acid (HCl).