

## Worksheet on Ch. 15 Solutions

1. What is a solution in chemistry?
2. What does dilute mean?
3. A polar solvent can dissolve what type of solute?
4. True or False? A nonpolar solute will dissolve in a polar solvent.
5. A solution is prepared by dissolving 15.5 grams of potassium bromide in 75.8 grams of water. What is the mass % of this solution?
  
6. Calculate the molarity of a solution comprised of 4.44 grams of potassium bromide in 2.50 liters of solution.
  
  
  
  
  
  
  
  
  
  
7. Calculate the mass percent if 1.583 grams of salt is dissolved in 25.75 grams of water.
  
  
  
  
  
  
  
  
  
  
8. Calculate the molarity of a solution comprised of 4.44 grams of calcium chloride in 3.25 liters of solution.

## Answers

1. A solution is a solute dissolved in a solvent.
2. Dilute is when a solution has very little solute in it compared to the solvent.
3. A polar solute
4. False

5.  $\left(\frac{15.5}{15.5+75.8}\right) \times 100 = 17.0 \%$

6.  $4.44 \text{ g KBr} \left(\frac{1 \text{ mol}}{119.00 \text{ g}}\right) = 0.03731092 \text{ moles KBr}$

$$M = \left(\frac{0.03731092 \text{ mol}}{2.50 \text{ L}}\right) = 0.0149 \text{ mol/L}$$

7.  $\left(\frac{1.583}{1.583+25.75}\right) \times 100 = 5.792 \%$

8.  $4.44 \text{ g CaCl}_2 \left(\frac{1 \text{ mol}}{110.98 \text{ g}}\right) = 0.0400072 \text{ moles CaCl}_2$

$$M = \left(\frac{0.0400072 \text{ mol}}{3.25 \text{ L}}\right) = 0.0123 \text{ mol/L}$$