

Chemistry 51

Practice Final A

Multiple Choice

- ___ 1. What is the osmolarity of a 0.25M solution of sodium acetate ($\text{NaC}_2\text{H}_3\text{O}_2$)?
- A) 0.50 osmol
 - B) 1.0 osmol
 - C) 0.25 osmol
 - D) 0.75 osmol
- ___ 2. What is the volume at STP occupied by 10.3 g of nitrogen gas?
- A) 16.5 L
 - B) 12.9 L
 - C) 8.24 L
 - D) 231 L
- ___ 3. Which of the following solutions has the greatest osmolarity?
- A) 0.35 M Na_2CO_3
 - B) 1.0 M $\text{C}_6\text{H}_{12}\text{O}_6$
 - C) 0.50 M NaCl
 - D) 0.30 M $\text{Al}(\text{NO}_3)_3$
- ___ 4. A sample of oxygen gas with a volume of 2.0 L has its absolute temperature halved while its pressure is doubled. What is the new volume of the gas?
- A) 4.0 L
 - B) 0.5 L
 - C) 2.0 L
 - D) 1.0 L
- ___ 5. If 5.00 g of NaCl are dissolved in 25.0 g of water, the percent mass (m/m) of this solution is
- A) 16.7
 - B) 20.0
 - C) 0.20
 - D) none of the above
- ___ 6. What is the final volume of a solution prepared by diluting 25 mL of 8.25M NaOH solution to a concentration of 2.40 M?
- A) 60 mL
 - B) 86 mL
 - C) 330 mL
 - D) 210 mL

- ___ 7. When barium hydroxide, $\text{Ba}(\text{OH})_2$ and HCl are combined, what is the precipitate that forms?
- A) BaH_2
 - B) H_2O
 - C) BaCl_2
 - D) No precipitate forms
- ___ 8. How many grams of H_3BO_3 are needed to prepare 250 mL of 0.125 M solution?
- A) 3.09 g
 - B) 0.312 g
 - C) 0.505 g
 - D) 1.93 g
- ___ 9. What volume will 69.0 g of Ar occupy at 0.992 atm and 75 °C?
- A) 52.2 L
 - B) 49.7 L
 - C) 33.8 L
 - D) 10.7 L
- ___ 10. How many mL of 6.0 M sulfuric acid must be used to prepare 500. mL of 0.20 M sulfuric acid solution
- A) 30
 - B) 100
 - C) 12
 - D) 17
- ___ 11. A sample of propane has a volume of 35.3 L at 315 K and 922 mmHg. What is its volume at STP?
- A) 25.2 L
 - B) 49.2 L
 - C) 33.6 L
 - D) 37.1 L
- ___ 12. Which compound below would NOT precipitate from an aqueous solution during a reaction?
- A) $\text{Cu}(\text{NO}_3)_2$
 - B) AlPO_4
 - C) CuCO_3
 - D) AgCl
- ___ 13. What volume of 0.300 M KCl solution will contain 15.3 g of KCl ?
- A) 61.5 mL
 - B) 684 mL
 - C) 4.60 L
 - D) 1.46 L