

- \_\_\_\_\_ 21. How many oxygen atoms are present in 6 molecules of  $\text{Ce}(\text{NO}_3)_3$ ?
- 3
  - 9
  - 18
  - 54
- \_\_\_\_\_ 22. Which of the following substances is an example of a strong electrolyte?
- sucrose
  - table salt
  - asphalt
  - corn starch
- \_\_\_\_\_ 23. If the solubility of NaCl in water is 35.7g NaCl / 100. g  $\text{H}_2\text{O}$ , what is the minimal volume of water needed to dissolve 425 grams of the salt?
- 1190 mL
  - 840 mL
  - 152 mL
  - 661 mL
- \_\_\_\_\_ 24. If:  $4 \text{C(s)} + \text{S}_8\text{(s)} \rightarrow 4 \text{CS}_2\text{(l)}$ , how many moles of  $\text{S}_8$  are required for the formation of 6.75 moles of  $\text{CS}_2$ ?
- 15.0 mol
  - 13.5 mol
  - 1.69 mol
  - 2.00 mol
- \_\_\_\_\_ 25. An unknown hydrocarbon is subjected to elemental analysis. The results of this test show that the compound is 82.66% carbon and 17.34% H. With a molar mass of 58.1 g/mole, the molecular formula of this compound is:
- $\text{C}_4\text{H}_{10}$
  - $\text{C}_5\text{H}_{10}$
  - $\text{C}_5\text{H}_{12}$
  - $\text{C}_6\text{H}_{14}$
- \_\_\_\_\_ 26. The Group II metals (Be, Mg, Ca, Sr, and Ba) are commonly referred to as the:
- alkali metals
  - alkaline earth metals
  - halogen metals
  - lanthanide metals
- \_\_\_\_\_ 27. The titration of 25.00 mL of 6.221 M  $\text{HCl(aq)}$  required 38.84 mL of  $\text{NaOH(aq)}$  for neutralization. What is the molarity of the NaOH?
- 4 M
  - 16.21 M
  - 4.004 M
  - 9.665 M
- \_\_\_\_\_ 28. The correct molecular formula of dinitrogen pentoxide is:
- $\text{N}_2\text{O}_5$
  - $(\text{NO}_5)_2$
  - $2\text{NO}_5$
  - $\text{N}_2\text{P}_5\text{O}$