

## ANSWER KEY

## Chapter 5 Test Answer Key

BLM 5.5.1A

**Answers to Multiple-Choice Questions**

1. d
2. b
3. c
4. d
5. c
6. d
7. a
8. a
9. b
10. c
11. b
12. b
13. b
14. c
15. d
16. a
17. c
18. b
19. a
20. d

**Answers to Numerical Response Questions**

|     |               |
|-----|---------------|
| 21. | 0.0505 mol/L  |
| 22. | 0.749 ppm     |
| 23. | 3.2 L         |
| 24. | 0.00725 mol/L |
| 25. | 0.200 mol/L   |
| 26. | 17.4 g        |
| 27. | 11 g          |

**Answers to Written Response Questions**

28. Silver chloride has a very low solubility. A saturated solution contains very few  $\text{Ag}^+(\text{aq})$  and  $\text{Cl}^-(\text{aq})$  ions.
29. When expansion occurs, the volume of solution increases, but the number of mol of solute does not change. Since concentration is the measured as mol per unit volume (L), the molar concentration will decrease.

|            |                           |            |
|------------|---------------------------|------------|
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30. When 50 g of solid is dissolved in 100 mL of water, the volume of the solution will be greater than 100 mL. It is incorrect to equate the volume of water to the volume of the solution for solutions of high concentration. The molar concentration cannot be calculated from the information given in this question. The concentration in mass percent could be calculated as follows: (Density of water = 1.00 g/mL)

$$\text{Mass percent} = \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100\% = \frac{50.0 \cancel{\text{ g}}}{150.0 \cancel{\text{ g}}} \times 100\% = 33.3\% \text{ m/m}$$