ANSWER KEY	**Chapter 7 Test Answer Key**	**BLM 7.3.1A**

Answers to Multiple-Choice Questions

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

Answers to Numerical Response Questions

16.	5.16 g
17.	448.0 L
18.	4.3 g
19.	3.21 g
20.	1.00 L
21.	0.39 L

Answers to Written Response Questions

22. a) $Ag_2S(s) + 2HCl(aq) \rightarrow 2AgCl(s) + H_2S(g)$

    b)   Double replacement

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c) $M(\text{AgCl}) = 143.32$ g/mol

$$n(\text{AgCl}) = \frac{m}{M} = \frac{40.0 \text{ g}}{143.32 \frac{\text{g}}{\text{mol}}} = 0.2791 \text{ mol}$$

$$0.2791 \text{ mol AgCl} \times \frac{2 \text{ mol HCl}}{2 \text{ mol AgCl}} = 0.2791 \text{ mol HCl}$$

$$n(\text{HCl}) = c \times V$$

$$V = \frac{n}{c} = \frac{0.2791 \text{ mol}}{6.00 \frac{\text{mol}}{\text{L}}} = 0.0465 \text{ L}$$

23. $M(\text{Cr}_2\text{O}_3) = 152.00$ g/mol
    $M(\text{Cr}_2\text{S}_3) = 200.21$ g/mol

$$\text{mol Cr}_2\text{O}_3 = \frac{n}{M} = \frac{30.0 \text{ g}}{152.00 \text{ g/mol}} = 0.19737 \text{ mol}$$

$$0.19737 \text{ mol Cr}_2\text{O}_3 \times \frac{1 \text{ mol Cr}_2\text{S}_3}{1 \text{ mol Cr}_2\text{O}_3} = 0.19737 \text{ mol Cr}_2\text{S}_3$$

Mass of $\text{Cr}_2\text{S}_3 = 0.19737$ mol $\times$ 200.21 g/mol $= 39.5$ g