

Brett Robbins Academic Consulting

Chemistry 20 Practice Test

Unit D: Quantitative Relationships in Chemical Changes

5 Questions

Original practice questions written to the Alberta curriculum, in the style of past diploma examinations. Work through each question, then check your answers with the key at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, contact Brett for clarification.

Question 1

Use the atomic masses Ca = 40.08, O = 16.00, H = 1.01 g/mol.

The molar mass of $\text{Ca}(\text{OH})_2$ is

- | | |
|----------------|-----------------|
| A) 57.09 g/mol | B) 74.10 g/mol |
| C) 97.15 g/mol | D) 114.18 g/mol |

Question 2

The mass of 0.250 mol of sodium chloride, NaCl (molar mass 58.44 g/mol), is

- | | |
|-----------|-----------|
| A) 14.6 g | B) 7.31 g |
| C) 29.2 g | D) 234 g |

Question 3

The number of molecules in 2.00 mol of NH_3 is

(use 6.02×10^{23} molecules/mol)

- | | |
|--------------------------|--------------------------|
| A) 3.01×10^{23} | B) 6.02×10^{23} |
| C) 1.20×10^{24} | D) 2.41×10^{24} |

Question 4

At STP, one mole of any ideal gas occupies 22.4 L.

The volume occupied by 0.500 mol of $\text{O}_2(\text{g})$ at STP is

- | | |
|-----------|-----------|
| A) 5.60 L | B) 11.2 L |
| C) 22.4 L | D) 44.8 L |

Question 5

A solution contains 0.200 mol of solute dissolved in 500 mL of solution.

The concentration of the solution is

A) 0.100 mol/L

B) 0.200 mol/L

C) 0.400 mol/L

D) 1.00 mol/L

Answer Key

- | | | |
|------|------|------|
| 1. B | 3. C | 5. C |
| 2. A | 4. B | |

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