

General Chemistry Practice Problems with Answers

1. Calculate moles in 44 g of CO₂. Answer: 1 mol
2. Mass of 2 moles of H₂O? Answer: 36 g
3. Number of molecules in 1 mol of O₂? Answer: 6.022×10^{23}
4. Moles in 22.4 L of gas at STP? Answer: 1 mol
5. Mass of 0.5 mol NaCl? Answer: 29.25 g
6. Molar mass of H₂SO₄? Answer: 98 g/mol
7. Limiting reagent: $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ (2 mol H₂, 0.5 mol O₂)? Answer: O₂
8. % yield if theoretical = 50 g, actual = 40 g? Answer: 80%
9. Volume of 1 mol gas at STP? Answer: 22.4 L
10. Ideal gas constant? Answer: 0.0821 L·atm/mol·K
11. Heat required to raise 1 g water by 1°C? Answer: 4.18 J
12. Heat for 100 g water, $\Delta T=10^\circ\text{C}$? Answer: 4180 J
13. ΔH for exothermic reaction? Answer: Negative
14. Expression for K_c? Answer: Products/reactants
15. If $K > 1$? Answer: Products favored
16. Catalyst effect on equilibrium? Answer: No change
17. Oxidation occurs at? Answer: Anode
18. Reduction occurs at? Answer: Cathode
19. EMF formula? Answer: $E_{\text{cell}} = E_{\text{cathode}} - E_{\text{anode}}$
20. Faraday constant? Answer: 96500 C/mol