Gas Laws — Practice Worksheet

Name: _____ Date: _____

Instructions: Show your reasoning, units, electron counts, or diagrams as needed. Use a separate sheet for additional work. For numeric results, use appropriate significant figures.

1. **Ideal gas law: n = 0.5 mol; P = 1.0 atm; T = 298.15 K. Find volume (L).**

2. **Ideal gas law: n = 1.25 mol; V = 10.0 L; T = 300.15 K. Find pressure (atm).**

3. **Ideal gas law: P = 0.95 atm; V = 5.0 L; T = 310.15 K. Find moles (mol).**

4. **Ideal gas law: n = 2.0 mol; P = 2.5 atm; T = 273.15 K. Find volume (L).**

5. **Ideal gas law: n = 0.75 mol; V = 12.0 L; T = 350.0 K. Find pressure (atm).**

6. **Ideal gas law: P = 1.25 atm; V = 2.5 L; T = 298.15 K. Find moles (mol).**

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7. Boyle law: P1 = 1.2 atm; V1 = 3.5 L; P2 = 0.8 atm. Find V_2 (L).

8. Boyle law: P1 = 0.95 atm; V1 = 8.0 L; P2 = 1.9 atm. Find V_2 (L).

9. Charles law: V1 = 2.4 L; T1 = 300.0 K; T2 = 360.0 K. Find V_2 (L).

10. Charles law: V1 = 5.0 L; T1 = 250.0 K; T2 = 300.0 K. Find V_2 (L).

11. Gay Lussac law: P1 = 1.1 atm; T1 = 280.0 K; T2 = 350.0 K. Find P_2 (atm).

12. Gay Lussac law: P1 = 2.0 atm; T1 = 320.0 K; T2 = 256.0 K. Find P_2 (atm).