AP WORKSHEET 03DEF: ANSWERS

1. N_2 = 2.5 atm, Cl_2 = 0.98 atm, Total = 3.48 atm

2. Dalton's

3. 7.88 L

4. 23.2 L

5. It is heavier (actual molar mass = 50 g mol^{-1} but no calculation required)

6. Helium since it has smaller gas particles (actually four times as fast but no calculation required)

7. He = 1363 ms^{-1}, N_2 = 515 ms^{-1}. Lighter gas has a higher u_{rms}. Calculation no longer required on AP

8. P using ideal gas equation = 16.3 atm, P using van der Waals equation = 15.1 atm. Second value is more accurate