NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **DATE DUE: 22/11/2018**

TEACHER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**/18**

**Year 11 Term 4 – Gases HOMEWORK SHEET No. 6**

**Success Criteria: 22 – 24 Real gases**

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| /1 | **1. Convert the following temperatures to K**.  a) 1234 0C  b) -54 0C | | |
| /3 | | **2. Convert the following values to the units indicated in the brackets.** | |
| **a)** 367 mmHg (to kPa)  **b)**  -16 0C (to K)  **c)**  268.3 atm (to kpa) | **d)** 0.0012 cm3 (to L)  **e)** 193.4 m3 (to L)  **f)**  456 L (to mL) |
| /2 | | **3. Under what conditions do most real gases follow the (ideal) gas law equations?** | |
| /3 | | **4. (a) Identify the gas in the following list which would show greatest deviation from ideal gas behaviour?**  **N2 H2 CO2 NO**  **(b) Justify your decision above by providing the key reason(s) this gas would show greatest deviation from ideal gas behaviour** | |
| /3 | | **5. (a) Identify the gas in the following list which would show smallest deviation from ideal gas behaviour?**  **N2 He O2 NO2**  **(b) Justify your decision above by providing the key reason(s) this gas would show greatest deviation from ideal gas behaviour** | |
| /3 | | **6. (a) On the following graph, draw a line which would most represent the relationship between volume and temperature for a real gas? Aline representing the relationship between the volume and temperature for an ideal gas is drawn as a guide (-----)**  **(b) Explain the differences between the line for a real gas and the line for an ideal gas.**  Volume (l)  Temperature (oC)  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| /3 | | **7. One day two friends went out on a scuba dive together and were relaxing afterwards over a couple of cold refreshments. The discussion turned to their scuba diving experience and Bob mentioned to Allie how cool it was that the bubbles of air they released under the surface expanded as they rose towards the surface of the ocean. Bob also said that shouldn’t they be able to calculate exactly how much any given bubble would expand. Allie replied that even though they could measure the pressure and temperature easily enough at different depths, because other factors were not constant it was not possible. Who is correct in this discussion? Explain your reasoning.** | |