**Chemistry 20 – Lesson 32**

**Ideal gas law**

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1.

/6 **The assumptions for an ideal gas are:**

* **Gas molecules are very tiny and are spaced far apart.**
* **Gas molecules are in constant, random, straight-line motion and there are no forces acting between molecules.**
* **Gas molecules undergo perfectly elastic collisions with one another (i.e. – no loss of kinetic energy).**
* **Ideal gases do not change phase into a liquid or a solid.**

**The behaviour of a real gas are:**

* **Gas molecules have varying sizes. When they are confined their sizes affect their interactions with one another.**
* **Gas molecules have intermolecular forces acting between them.**
* **Gas molecules do lose a small amount of energy when they collide with one another.**
* **Real gases will eventually condense into liquids if the temperature is lowered.**

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b. **The gas may be carbon dioxide (M = 44.01 g/mol), but this is not very certain since other possibilities like dinitrogen oxide (M = 44.02 g/mol) also exist. A diagnostic test would be necessary to confirm the presence of one gas or another.**

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