

## Blitz, Unit 15, Form T-Z

Name \_\_\_\_\_ Period \_\_\_\_\_

***This is a Take Home Exam. You may use your Notes, PowerPoint, or Text on this exam but NO help from human beings!***

**EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:**

**You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!**

1. Showing your method, convert the following common temperatures in °C to K: a. Freezing of water, b. Room temp, c. Body temp, d. Boiling of water, e. Red hot.
2. Diagram an open-tube manometer and show how it measures the pressure in a flask of gas.
3. Showing your method, calculate how many kilograms of pull are needed to separate Magdeburg Hemispheres whose radius is 11cm. (Hint:  $\text{Area} = \pi r^2$ , and  $\text{Total Force} = \text{Area} \times \text{Pressure}$ ).
4. Describe the situation of molecules in Solids, Liquids, Gases, and Plasmas.
5. State the Kinetic Theory and describe five evidences supporting it.
6. Explain how to weigh air and give the density of air in grams/liter.
7. Give the following equivalents for one atmosphere of pressure: a. 1 atm = ? meters of water, b. 1 atm = ? mm of mercury, c. 1 atm = ?  $\text{kg/cm}^2$ , d. 1 atm = ? kPa.
8. Tell the story of the Duke of Tuscany's Pump and how it led Torricelli to the discovery of atmospheric pressure.
9. Tell why the Earth Sucks Not, correctly define to the terms Vacuum and Suction , and give three examples of *Suction* in action.
10. Calculate the total force of the atmospheric pressure upon a 4-liter jug whose surface area is  $2400 \text{ cm}^2$ .

**When finished, please STAPLE this exam onto your papers and turn in on due date.**