

Blitz, Unit 15, Form D-H

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!

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

EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:

1. Showing your method, convert the following common temperatures in $^{\circ}\text{C}$ 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 4 cm. (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. Tell why the Earth Sucks Not, correctly define to the terms Vacuum and Suction and give three examples of *Suction* in action.
7. Calculate the total force in kilograms of the atmospheric pressure upon a 4-liter jug whose surface area is 2000 cm^2 .
8. Explain how to weigh air and give the density of air in grams/liter.
9. Give the following equivalents for one atmosphere of pressure: a. $1 \text{ atm} = ?$ meters of water, b. $1 \text{ atm} = ?$ mm of mercury, c. $1 \text{ atm} = ? \text{ kg/cm}^2$, d. $1 \text{ atm} = ? \text{ kPa}$.
10. Tell the story of the Duke of Tuscany's Pump and how it led Torricelli to the discovery of atmospheric pressure.

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