Name: _____

Unit 5 Practice Sheet (Chapter 13, 14, and 15)

***Chapter 13 and 15:**

There are only a few questions about Chapter 13 or 15 on this practice sheet, but you still need to know the information. Most students need the most practice on Chapter 14 because of the math. Chapter 13 and 15 are covered more on the Unit 5 Study Guide.

***Chapter 13:**

1. List the four assumptions of the kinetic theory.
2. Convert 207 kPa to torr.
3. What is sublimation?

***Chapter 14:**

4. What are 3 factors that affect gas pressure?
5. If you increase the number of particles of a gas, then the pressure _____.
6. If you double the volume of a gas, then the pressure _____.
7. If you decrease the temperature of a gas, then the pressure _____.
8. What is the poem that I wrote to help you remember the gas laws?

***For questions 9 – 16, write the answer to the question **AND** the gas law that you had to use.

9. Oxygen gas is at a temperature of 40°C when it occupies a volume of 2.3 liters. To what temperature should it be raised to occupy a volume of 6.5 liters?
10. A gas is at a temperature of 100°C and a pressure of 650 torr. The conditions are changed to 225 mL at 900 torr and 150°C. What was the original volume?
11. A sample of carbon dioxide occupies a volume of 3.50 liters at 125 kPa pressure. What pressure would the gas exert if the volume was decreased to 2.00 liters?

12. A sample of oxygen gas occupies a volume of 250 mL at 740 torr pressure. What volume will it occupy at 800 torr pressure?
13. Hydrogen gas was cooled from 150°C to 50°C. Its new volume is 75 mL. What was its original volume?
14. A gas occupies a volume of 3.0 liters at 1.5 atm and 20°C. What is the new volume if the conditions are changed to 2.5 atm and 30°C?
15. Chlorine gas occupies a volume of 25mL at 300K. What volume will it occupy at 600K?
16. A gas occupies a volume of 750 mL at 0°C. The conditions are changed to 500mL at 2.0 atm and 25°C. What was the original pressure?
17. What is the value of R, and what are its units?
18. How many moles of oxygen will occupy a volume of 2.5 liters at 1.2 atm and 25°C?
19. What volume will 2.0 moles of nitrogen occupy at 720 torr and 20°C?
20. What volume will 454 grams of hydrogen occupy at 1.05 atm and 25°C?
21. Find the number of grams of CO_2 that exert a pressure of 785 torr at a volume of 32.5 L and a temperature of 32°C.
22. At which temperatures and pressures are real gases the most like ideal gases?

***Chapter 15:**

23. What attractions hold water molecules together?
24. What is a solute in sweet tea?
25. Draw a diagram of an ionic compound dissolving in water.