Name..... Key ..... Unit 9 I Can Statements KMT Period.....

____1. I can state the 4 parts of the Kinetic Molecular Theory.	The five parts of the Kinetic Molecular Theory are: a. Continuous Straight line motion b. When gas molecules collide the completely transfer energy c. No attraction B/W molecule d. No volume
____2. I can define an ideal gas.	**Definition:** ideal gas: A gas that follows ↑
____3 I can state the conditions of pressure and temperature under which a gas will act "ideally".	A gas will act most "ideally" under the conditions of Low pressure and High temperature. Hot + Not a lot of pres
____4. I can state the two elements that act ideally most of the time.	The two elements that act ideally most of the time are H_2 & He.
____5. I can explain how pressure is created by a gas.	What causes gas molecules to create pressure? Hitting inside of container
____6. I can state the relationship between pressure and volume for gases (assuming constant temperature).	At constant temperature, as the pressure on a gas increases, the volun decreases P ↑ V ↓
____7. I can state the relationship between temperature and volume for gases (assuming constant pressure).	At constant pressure, as the temperature on a gas increases, the volun increases. V ↑ T ↑

____8. I can state the relationship between temperature and pressure for gases (assuming constant volume).	I n a fixed container (AKA "has constant volume), as the temperature on a gas increases, the pressure increases. P ↑ / T
____9. I can state Avogadro's Hypothesis.	Avogadro's Hypothesis says Same # of molecules in the same volume at the same conditions.
____10. I can remember to convert ^{o}C to K when using the Combined Gas Law to determine changes in V, P, or T of a gas.	A gas originally occupies 2.3L at 56^{o}C and 101.3 kPa. What will its volume be at 100^{o}C and 105.7 kPa? $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$ $\frac{(101.3)(2.3)}{329} = \frac{V_2(105.7)}{373}$ $V_2 = 2.5L$
____11. I can define boiling point and vapor pressure.	**Definition:** **Boiling Point:** The point at which external pressure = vapor pressure **Vapor Pressure:** The force of a vapor on a closed container
____12. I can state the conditions of temperature and pressure that are used for "normal" boiling points. STP	The normal (STP) boiling point of a substance occurs at temperature of 0 ^{o}C/ 273 K and a pressure of 1 atm/ 101.3 kPa. This can be found on Reference Table A.
____13. I can state the relationship between atmospheric pressure and boiling point.	As the atmospheric pressure increases, the boiling point ↑.

___14. I can determine the vapor pressure of ethanol, ethanoic acid, propane, or water at a given temperature.	What is the vapor pressure of ethanol at 56°C? 37 What is the boiling point of propanone at STP? 55°C
___15. I can state the relationship between the strength of IMF and vapor pressure.	As the strength of IMF increases, vapor pressure decreases. In terms of IMF, will have the lowest vapor pressure, H_2O or H_2? H_2O B/C it has the strongest IMF
___16. I can use Dalton's Law to determine a partial pressure	Gas A and gas B (both unreactive) are allowed to mix. The total pressure is found to be 3.50 atm. If gas B was measured initially at 1.25 atm, what is the partial pressure of gas A? a. 4.75 atm b. -2.25 atm c. 2.25 atm d. 1.25 atm $P_T = P_A + P_B + P_C$
___17. I can convert between moles and liters at STP	2 mols = 44.8 L 44.8 L = 2 moles _____ mols = 56.6L 11.2 L = .5 moles
___18. I can determine what gas molecules will diffuse or effuse fastest based on GFM.	The H_2O molecule will diffuse the fastest. **Determine which of the following will diffuse/effuse fastest.** H_2O C_2H_8 O_2 it is the smallest