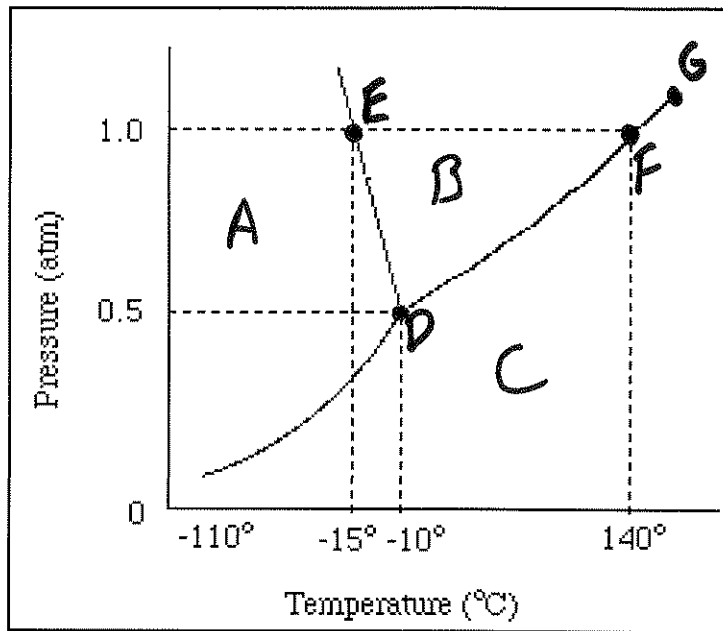


Name: _____

Gases and KMT Practice Test

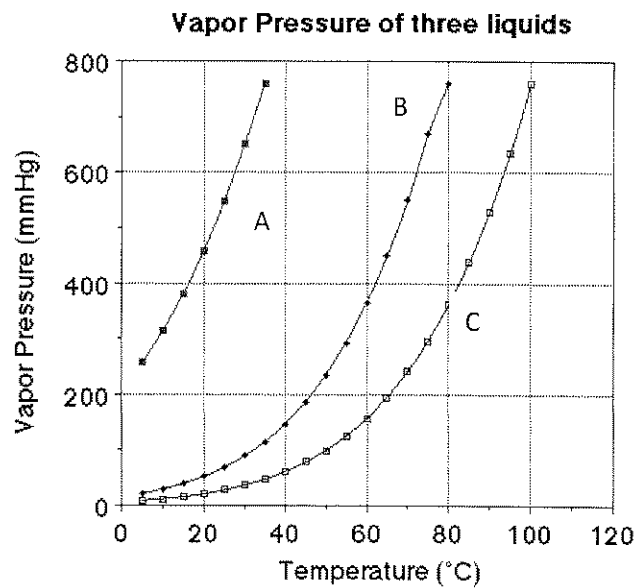
1. According to the kinetic theory, particles of a gas.
 - a. attract each other but do not collide.
 - b. repel each other and collide.
 - c. collide but do not attract or repel each other.
 - d. do not collide and do not attract or repel each other.
2. If a fixed quantity and volume of a gas undergoes a change in temperature, it will also experience a change in _____.
3. To study the relationship between pressure and volume of a gas, hold the _____ constant.
4. Standard pressure is the atmospheric pressure balanced by a column of mercury in a tool called a _____.
5. If the volume and number of moles of a gas remain constant, but the temperature increases, the pressure of the gas will _____.
6. If no kinetic energy is lost, a collision is called _____.
7. The force of a gas over a liquid is called _____.
8. _____ is the SI unit of pressure.



Label each of the following on the diagram above:

Solid, liquid, gas, normal boiling point, normal melting point, critical point, triple point

A B C F E G D



9. Which substance has the lowest normal boiling point? (A)

10. Which substance would be a liquid at 80°C and 600mmHg? (C)

11. Which substance is the most volatile? (A)

Calculations:

12. The pressure of a 1000mL sample of gas is 700mmHg and its temperature is 10°C. If the volume is held constant, what will the temperature be at 900mmHg? (363.9 K)

13. If five gases in a cylinder each exert a partial pressure of 1.50 atm, what is the total pressure exerted by the gases? (7.5 atm)

14. The volume of a gas is 400mL at 30.0°C. What volume will it occupy at 50.0°C if the pressure remains constant? (426.4 mL)

15. The pressure of a 70.0 L sample of gas is 600mmHg at 20.0°C. If the temperature drops to 15°C and the volume expands to 90.0L, what will the pressure of the gas be? (458.7 mm Hg)

16. Convert 650 torr to atm. (0.86 atm)

17. The pressure of a 40mL sample of gas at constant temperature is 8.0 atm. What will the pressure be if the volume increases to 100mL? (3.2 atm)

18. What is the pressure (in atm) of 1.2 moles of nitrogen gas if the temperature is 30°C and the volume is 52L? (0.57 atm)

19. Hydrogen gas is collected over water at 20°C. The atmospheric pressure is 765 torr. The water vapor at 20°C is 17.5 torr. What is the pressure of the gas? (747.5 torr)

20. What is the temperature of 2.3 moles of a substance that has a pressure of 800 torr, in a 200 mL container? (1.1 K)

21. What is the volume of a 10.0 gram sample of CO₂ if the temperature is 30°C and the pressure is 2.1 atm? (2.69 L)