

Name _____

Combined Gas Law

_____ 1) A sample of gas occupies a volume of 50.0 milliliters in a cylinder with a movable piston. The pressure of the sample is 0.90 atmosphere and the temperature is 298 K. What is the volume of the sample at STP?

- 1) 41 mL
- 2) 49 mL
- 3) 51 mL
- 4) 55 mL

_____ 2) A sample of helium gas has a volume of 900. milliliters and a pressure of 2.50 atm at 298 K. What is the new pressure when the temperature is changed to 336 K and the volume is decreased to 450. milliliters?

- 1) 0.177 atm
- 2) 4.43 atm
- 3) 5.64 atm
- 4) 14.1 atm

_____ 3) The volume of a sample of a gas at 273°C is 200. liters. If the volume is decreased to 100. liters at constant pressure, what will be the new temperature of the gas?

- 1) 0 K
- 2) 100. K
- 3) 273 K
- 4) 546 K

_____ 4) A gas sample has a volume of 25.0 milliliters at a pressure of 1.00 atmosphere. If the volume increases to 50.0 milliliters and the temperature remains constant, the new pressure will be

- 1) 1.00 atm
- 2) 2.00 atm
- 3) 0.250 atm
- 4) 0.500 atm

5. A sample of gas at 27.0 °C has a pressure of 660.mmHg. At constant volume, what will be the new pressure in atmospheres if the temperature increases to 48.0 °C?

6. If 75.0 cm³ of CO₂ gas are collected at a temperature of 296 K and a pressure of 98.0kPa, what volume will the gas occupy if the pressure is changed to 0.892atm and the temperature changes to 282 K?