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?

   A) 41 mL B) 49 mL
   C) 51 mL D) 55 mL

2. A gas occupies a volume of 444 mL at 273 K and 79.0 kPa. What is the final kelvin temperature when the volume of the gas is changed to 1880 mL and the pressure is changed to 38.7 kPa?

   A) 31.5 K B) 292 K
   C) 566 K D) 2360 K

3. A 3.00-liter sample of gas is at 288 K and 1.00 atm. If the pressure of the gas is increased to 2.00 atm and its volume is decreased to 1.50 liters, the Kelvin temperature of the sample will be

   A) 144 K B) 288 K
   C) 432 K D) 576 K

4. The temperature of a 2.0-liter sample of helium gas at STP is increased to 27°C and the pressure is decreased to 80. kPa What is the new volume of the helium sample?

   A) 1.4 L B) 2.0 L C) 2.8 L D) 4.0 L

5. A gas has a volume of 1,400 milliliters at a temperature of 20. K and a pressure of 1.0 atm. What will be the new volume when the temperature is changed to 40. K and the pressure is changed to 0.50 atm?

   A) 350 mL B) 750 mL
   C) 1,400 mL D) 5,600 mL