

Boyle's Law Worksheet

Assume that the temperature and the amount of gas present are constant in the following problems.

1. The volume of a gas at 99.0 kPa is 300.0 mL. If the pressure is increased to 188 kPa, what will be the new volume?
2. The pressure of a sample of helium in a 1.00-L container is 0.988 atm. What is the new pressure if the sample is placed in a 2.00-L container?
3. Air trapped in a cylinder fitted with a piston occupies 145.7 mL at 1.08 atm pressure. What is the new volume of air when the pressure is increased to 1.43 atm by applying force to the piston?
4. If it takes 0.0500 L of oxygen gas kept in a cylinder under pressure to fill an evacuated 4.00-L reaction vessel in which the pressure is 0.980 atm, what was the initial pressure of the gas in the cylinder?
5. A sample of neon gas occupies 0.220 L at 0.860 atm. What will be its volume at 29.2 kPa pressure?