# Charles' Law Problems

1. The temperature of a 100ml sample of gas is increased from -73° C to 127° C at constant pressure. The new volume of the gas is?
2. The volume of a gas is 200ml at -20° C. If the pressure of the gas is constant and temperature is changed to 40° C, the new volume of the gas expressed in ml is equal to?
3. The volume of a gas is 2 liters at 0° C. What will the volume of the gas be at 100° C if the pressure is kept constant?
4. The temperature of a 50ml sample of gas is decreased from 127° C to -173° C at constant pressure. What is the new volume of the gas?
5. One liter of a gas at STP is heated to 100° C. What is the new volume of the gas?
6. The volume of a sample of gas is 25.0ml when the temperature is 270K. If the temperature is changed to 300K. What will be the new volume occupied by the gas, assuming that the pressure remains constant?
7. The volume of a sample of gas is 2.00L when the temperature is 10.0° C. While the pressure remains constant, the temperature is changed to a new value, which causes the volume to become 3.00L. What was the temperature changed to?
8. When the volume of a sample of gas is divided by the temperature of the gas, the result is 1.33ml K. The temperature of the gas is changed to a new value, which happens to be 400K while the pressure is kept constant. What volume does the sample of gas occupy at 400K?