Charles's Law Problems

1. A gas sample at 40.0°C occupies a volume of 2.32 L. If the temperature is raised to 75.0°C, what will the volume be, assuming the pressure remains constant?

2. A gas at 89°C occupies a volume of 0.67 L. At what Celsius temperature will the volume increase to 1.12 L?

3. The Celsius temperature of a 3.00-L sample of gas is lowered from 80.0°C to 30.0°C. What will be the resulting volume of this gas?

4. What is the volume of the air in a balloon that occupies 0.620 L at 25°C if the temperature is lowered to 0.00°C?

5. Calculate the decrease in temperature when 2.00 L at 20.0 °C is compressed to 1.00 L.

6. 600.0 mL of air is at 20.0 °C. What is the volume at 60.0 °C?

7. A gas occupies 900.0 mL at a temperature of 27.0 °C. What is the volume at 132.0 °C?

8. What change in volume results if 60.0 mL of gas is cooled from 33.0 °C to 5.00 °C?

9. Given 300.0 mL of a gas at 17.0 °C. What is its volume at 10.0 °C?