Gas Laws Practice Problems

III. Charles's Law (pressure and moles held constant)

8.) 3.00 liters of hydrogen gas at 253 K is allowed to warm to a room temperature of 298 K. What is the new volume? (answer: 3.53 L)

9.) If 20.0 L of nitrogen gas is cooled from 100°C to 0°C, what is the new volume? (answer: 14.6 L)

10.) If an unknown gas occupies a volume of 5.00 L is cooled from a starting temperature of 27°C, at what temperature (in degrees Celsius) will the volume be 1.25 L? (answer: -198 °C)