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GAS LAWS MIXUP

All you need is PV=nRT… and maybe ST and SP. Rearrange PV=nRT to solve these problems.

1) If some neon gas at 121 kPa were allowed to expand from 3.7 L to 6.0 L without changing the temperature, what pressure would the neon gas exert under these new conditions?

2) A quantity of gas under a pressure of 1.78 atm has a volume of 550 cm^3. The pressure is increased to 2.50 atm, while the temperature remains constant. What is the new volume?

3) Under a pressure of 920 mmHg, a gas has a volume of 564 cm^3 at standard temperature. If the temperature drops to 150 K and the volume of the gas becomes 800 cm^3, what is the new pressure?

4) 4.4 moles of a gas is collected at exert 1.31 atm. What will be the new pressure if you add more gas to bring the amount to 6.5 moles?

5) 5.00 L of a gas is collected at 100 K and then allowed to expand to 20.0 L. What must the new temperature be in order to maintain the same pressure?

6) A 4.55 L balloon initially at STP is placed in the freezer and the volume decreases to 4.02 L. What is the temperature of the freezer?

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7) 9.2 moles of gas is collected and it takes up 2.85 L. What will be the new volume if 6 more moles of gas are added?

8) A 1250 mL container is initially at STP. What will the pressure be at 125°C if the container size is reduced to 825 mL?

9) A container is initially at 47 mmHg and 77 K (liquid nitrogen temperature.) What will the pressure be when the container warms up to room temperature of 25°C?

10) A gas thermometer measures temperature by measuring the pressure of a gas inside the fixed volume container. A thermometer reads a pressure of 248 torr at 0°C. What is the temperature when the thermometer reads a pressure of 345 torr?

11) A 17.6g sample of argon gas at room temperature (22°C) takes up 24.0L under 45 kPa. If 1.7 moles of the gas seep out of the container and the volume drops to 23.1 L as the temperature gets extremely warm (47°C), what will be the new pressure on the gas?