

Charles' Law: At constant P, V is directly related to T.

$$\frac{V_1}{T_1} = \frac{V_2}{T_2}$$

- 1) If the temperature of a gas is doubled at constant pressure, what will happen to its volume?

- 2) 100 ml of a gas at 0°C is heated, at constant pressure, until it expands to 200ml. What is the final temperature of the gas?

HW

1) What is the meaning of a “direct” relationship?

2) How does the Kinetic Molecular Theory explain Charles' Law?

3) 30cm³ of a gas at 300 K is heated so that it expands to 45 cm³, while the pressure remains the same. What was the final temperature of the gas?

4) A gas occupies 20 L at 20°C. If pressure remains the same, find its volume at 313°C.

5) At constant pressure, the volume of a gas increases when its temperature is changed from 10°C to
a) 263 K b) 273 K c) 283 K d) 293 K