Chem11 Gay-Lussac's Law : W.S. - 40

Gay-Lussac's Law states that if a gas is sealed in a container that can't expand or contract, the pressure is proportional to the Kelvin temperature.

Gay-Lussac's Law is : **P/T = a constant** or **$P_1/T_1 = P_2/T_2$**

Problems : **Assume that the volume is constant**.

1) A steel cylinder contains a gas at 20.°C and 650. kPa. Find the new pressure if the cylinder is heated to 80.°C.

2) A glass container can withstand a maximum internal pressure of 250. kPa. If it is filled with a gas at 22°C and 101 kPa, find the Celsius temperature at which the container will burst.

3) If the Kelvin temperature of a gas in a steel container is doubled, what happens to the pressure ?

Answers : 1) 783 kPa, 2) 457°C, 3) It is doubled.