Answer:

From the gas laws we know that

$$\frac{P_1 \cdot V_1}{T_1} = \frac{P_2 \cdot V_2}{T_2} .$$

From the condition of the task we also know that volume doesn't change $V_1=V_2$

Than formula will be

$$\frac{P_1}{T_1} = \frac{P_2}{T_2}$$

$P_1$= 790. mmHg $P_2$ =740. mmHg. $T_1$=50 $^{\circ}$C

$$T_2 = \frac{P_2 \cdot T_1}{P_1}$$

$T_2$=46,8 $^{\circ}$C