

$$1) \quad T_{K_1} = 27 + 273 = 300 \text{ K}$$

$$T_{K_2} = 127 + 273 = 400 \text{ K}$$

$$V_1 = V_2 \text{ (indeformabel)}$$

$$P_1 = 6 \text{ atm}$$

$$P_2 = ?$$

$$\frac{P_1}{T_1} = \frac{P_2}{T_2} \quad \therefore \frac{6}{300} = \frac{P_2}{400}$$

$$P_2 = \frac{24}{3} \quad \therefore P_2 = 8 \text{ atm}$$

$$2) \quad P_1 = 5 \text{ atm}$$

$$T_{K_1} = -23 + 273 = 250 \text{ K}$$

$$T_{K_2} = 47 + 273 = 320$$

$$P_2 = ?$$

$$V_1 = V_2 \quad \therefore \frac{P_1}{T_1} = \frac{P_2}{T_2}$$

$$\frac{5}{250} = \frac{P_2}{320} \quad \therefore \frac{1}{5} = \frac{P_2}{320} \quad \therefore P_2 = \frac{320}{5}$$

$$P_2 = 64 \text{ atm}$$

$$3) \quad P_1 = 7 \text{ atm}$$

$$P_2 = ?$$

$$T_{K_1} = 7 + 273 = 280 \text{ K}$$

$$T_{K_2} = 87 + 273 = 360 \text{ K}$$

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

$$\frac{7}{280} = \frac{P_2}{360} \quad \therefore \frac{1}{40} = \frac{P_2}{360}$$

$$P_2 = 9 \text{ atm}$$

$$4) P_1 = 2 \text{ atm}$$

$$P_2 = ?$$

$$T_{k1} = -23 + 273 = 250 \text{ K}$$

$$T_{k2} = 127 + 273 = 400 \text{ K}$$

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

$$\frac{2}{520} = \frac{P_2}{400}$$

$$P_2 = \frac{16}{5} \therefore P_2 = 3,2 \text{ atm}$$

$$5) P_1 = 30 \text{ atm}$$

$$T_{k1} = 27 + 273 = 300 \text{ K}$$

$$P_2 = ?$$

$$T_{k2} = 27 + 273 = 300 \text{ K}$$

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

$$\frac{30}{300} = \frac{P_2}{300} \Leftrightarrow \frac{30}{300} = \frac{P_2}{300} \Leftrightarrow P_2 = 3,1 \text{ atm}$$

$$6) V_1 = 60 \text{ L}$$

$$T_{k1} = 27 + 273 = 300 \text{ K}$$

$$T_{k2} = 57 + 273 = 330 \text{ K}$$

$$V_2 = ?$$

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

$$\frac{60}{300} = \frac{V_2}{330}$$

$$V_1 = 2 \cdot 33$$

$$V_1 = 66 \text{ l.}$$

$$7) P_1 = P_2 \Rightarrow \frac{V_1}{T_1} = \frac{V_2}{T_2}$$

$$V_1 = 50 \text{ l}$$

$$T_{k1} = 27 + 273 = 300 \text{ K}$$

$$T_{k2} = 177 + 273 = 450 \text{ K}$$

$$V_2 = ?$$

$$\frac{50}{300} = \frac{V_2}{450} \Rightarrow V_2 = 5 \cdot 15$$

$$V_2 = 75 \text{ l}$$

$$V_2 = 75 \text{ l.}$$

$$8) P_1 = P_2 \Rightarrow \frac{V_1}{T_1} = \frac{V_2}{T_2}$$

$$V_1 = 40 \text{ l}$$

$$V_2 = ?$$

$$T_{K1} = -23 + 273 = 250 \text{ K}$$

$$T_{K2} = 27 + 273 = 300 \text{ K}$$

$$\frac{40}{250} = \frac{V_2}{300} \therefore V_2 = 48 \text{ l.}$$

$$9) P_1 = P_2 \Rightarrow \frac{V_1}{T_1} = \frac{V_2}{T_2}$$

$$V_1 = 90 \text{ l}$$

$$V_2 = ?$$

$$T_{K1} = 27 + 273 = 300 \text{ K}$$

$$T_{K2} = 7 + 273 = 280 \text{ K}$$

$$\frac{90}{300} = \frac{V_2}{280} \therefore \frac{3}{10} = \frac{V_2}{280}$$

$$V_2 = 28 \cdot 3$$

$$V_2 = 84 \text{ l.}$$

$$10) P_1 = P_2 \Rightarrow \frac{V_1}{T_1} = \frac{V_2}{T_2}$$

$$V_1 = 120 \text{ l}$$

$$V_2 = ?$$

$$T_{K1} = 27 + 273 = 300 \text{ K}$$

$$T_{K2} = -23 + 273 = 250 \text{ K}$$

$$\frac{120}{300} = \frac{V_2}{250} \therefore V_2 = 25 \cdot 4$$

$$V_2 = 100 \text{ l.}$$

~~$$11) \frac{P_1 \cdot V_1}{T_1} = \frac{P_2 \cdot V_2}{T_2}, \text{ pois } P_1 = P_2$$~~

~~$$P_1 \cdot V_1 = P_2 \cdot V_2$$~~

$$11) \frac{P_1 \cdot V_1}{T_1} = \frac{P_2 \cdot V_2}{T_2}$$

$$P_1 = 2 \text{ atm}$$

$$V_1 = 70 \text{ l}$$

$$T_{K1} = 7 + 273 = 280 \text{ K}$$

$$P_2 = ?$$

$$V_2 = 50 \text{ l}$$

$$T_{K2} = 47 + 273 = 320 \text{ K}$$

$$\frac{2 \cdot 70}{280} = \frac{P_2 \cdot 50}{320} \therefore \frac{1}{2} = \frac{P_2 \cdot 5}{32}$$

$$P_2 = \frac{16}{5} = 3,2 \text{ atm}$$

$$12) \frac{P_1 \cdot V_1}{T_1} = \frac{P_2 \cdot V_2}{T_2}$$

$$P_1 = 5 \text{ atm}$$

$$V_1 = 130 \text{ l}$$

$$T_{k1} = 13 + 273 = 286 \text{ K}$$

$$P_2 = ?$$

$$V_2 = 120 \text{ l}$$

$$T_{k2} = 27 + 273 = 300 \text{ K}$$

$$\frac{5 \cdot 130}{286} = \frac{P_2 \cdot 120}{300}$$

$$2,5 = \frac{P_2 \cdot 120}{300}$$

$$P_2 = 6,25 \text{ atm}$$

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

$$\frac{80 \cdot 4}{320} = \frac{400 \cdot P_2}{400}$$

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$$\frac{1}{8} = \frac{P_2}{10} \Rightarrow P_2 = 1,25 \text{ atm}$$

$$13) V_1 = 80 \text{ l}$$

$$V_2 = 40 \text{ l}$$

$$T_{k1} = 47 + 273 = 320 \text{ K}$$

$$T_{k2} = 127 + 273 = 400 \text{ K}$$

$$P_1 = 4 \text{ atm}$$

$$P_2 = ?$$

$$14) V_1 = 60 \text{ l}$$

$$T_{k1} = 273 + 27 = 300 \text{ K}$$

$$P_1 = 10 \text{ atm}$$

$$V_2 = 50 \text{ l}$$

$$T_{k2} = 273 + 27 = 300 \text{ K}$$

$$P_2 = ?$$

$$\frac{V_1 \cdot P_1}{T_1} = \frac{V_2 \cdot P_2}{T_2} \Rightarrow \frac{60 \cdot 10}{300} = \frac{50 \cdot P_2}{300} \Rightarrow P_2 = \frac{64}{5} = 12,8 \text{ atm}$$

$$15) V_1 = 140 \text{ l}$$

$$T_{k1} = 273 + 7 = 280 \text{ K}$$

$$P_1 = 5 \text{ atm}$$

$$V_2 = ?$$

$$T_{k2} = 273 + 47 = 320 \text{ K}$$

$$P_2 = 8 \text{ atm}$$

$$\frac{140 \cdot 5}{280} = \frac{V_2 \cdot 8}{320} \Rightarrow \frac{5}{2} = \frac{V_2}{40} \Rightarrow V_2 = 100 \text{ l}$$

$$16) V_1 = 65 \text{ l}$$

$$T_{k1} = 273 - 13 = 260 \text{ K}$$

$$P_1 = 10 \text{ atm}$$

$$V_2 = 50$$

$$T_{k2} = ?$$

$$P_2 = 20 \text{ atm}$$

$$\frac{65 \cdot 10}{260} = \frac{50 \cdot 20}{T_{k2}}$$

$$\Rightarrow \frac{5}{2} = \frac{1000}{T_{k2}} \Rightarrow T_{k2} = 400 \text{ K}$$

$$T_c = 400 - 273$$

$$T_c = 123^\circ \text{C}$$