Exercise 2-3

Wednesday, 22 April 2020 14:10

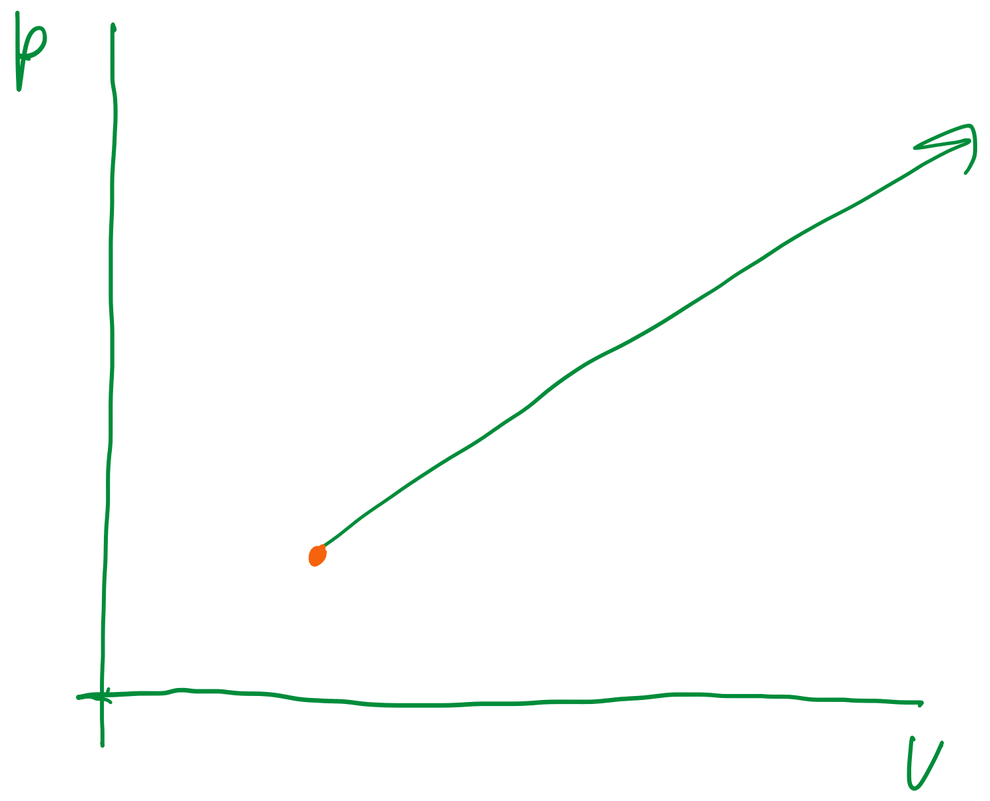
a) ideal gas → $PV = nRT$

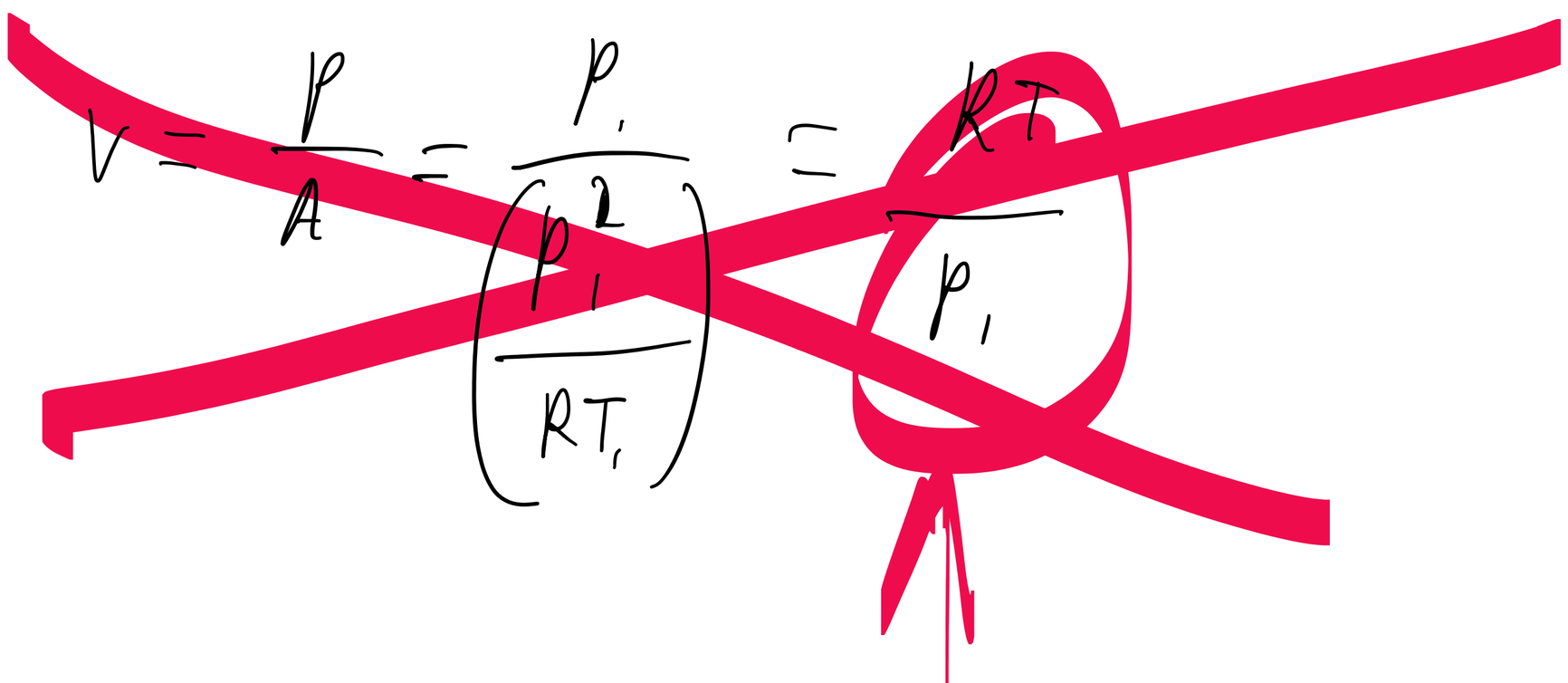
$P = Av = A\frac{V}{n}$

$n = \frac{PV}{RT}$

$A = \frac{nP}{V} = \frac{P^2 V}{VRT} = \frac{P^2}{RT}$

$A = \frac{P_1^2}{RT_1}$





$PV = RT$

$V = \frac{RT}{P} \longrightarrow V = \frac{RT}{AV} \rightarrow V^2 = \frac{RT}{A}$

$(2V)^2 = 4V^2 = \frac{R}{A} \cdot (4T)$

to T should have quadrupled

↓

$T = 4T_1 = 800\,K$