

What is $\alpha = \frac{1}{P} \frac{\beta}{\kappa}$ for an ideal gas

$$\alpha = \frac{1}{P} \frac{\beta}{\kappa}$$

$$\kappa = \frac{1}{P}$$

$$\beta = \frac{1}{T}$$

$$\rightarrow \alpha = \frac{1}{P} \frac{P}{T} = \frac{1}{T}$$