

1. You are running an experiment, where you are diffusing copper into aluminum. So far you have determined the diffusivity to be $4.892 \times 10^{-17} \text{ m}^2/\text{s}$ at 300°C and $4.456 \times 10^{-14} \text{ m}^2/\text{s}$ at 500°C . Using the diffusion coefficients you have determined at these two temperatures, calculate:

$$R=8.314 \text{ J/mol}\cdot\text{K}$$

- a. the activation energy, Q_d , for Cu diffusion into Al.
- b. the diffusion coefficient, D at 600°C .