

**Name:**

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**Homework for Lecture 6, 5**

Consider a binary solution of A and B with the concentration of  $X_A=0.2$ . The free energy of this binary solution is given by  $G = G^0 + RT(X_A X_B)$ . Suppose the trace diffusion coefficient of A is twice that of B, i.e.,  $D_A=2D_B$ ,

Then, what is the interdiffusion coefficient,  $\tilde{D}$ ? (Express your answer in term of  $D_B$ )