QUIZ:

- For a liquid mixture of 41.2 mol% ethanol (1) and n-hexane (2).
- Find the activity coefficients $\gamma_i$ from the Van Laar equations:

$$\ln \gamma_1 = \frac{A}{[1 + (Ax_1 / Bx_2)]^2}$$

$$\ln \gamma_2 = \frac{B}{[1 + (Bx_2 / Ax_1)]^2}$$

$A = 2.409$, and $B = 1.970$

- Compare those from the Wilson equations:

$$\ln \gamma_1 = -\ln[x_1 + x_2 \Lambda_{12}] + x_2 \left[ \frac{\Lambda_{12}}{x_1 + x_2 \Lambda_{12}} - \frac{\Lambda_{21}}{x_2 + x_1 \Lambda_{21}} \right]$$

$$\Lambda_{12} = 0.0952, \Lambda_{21} = 0.2713$$

$$\ln \gamma_2 = -\ln[x_2 + x_1 \Lambda_{21}] + x_1 \left[ \frac{\Lambda_{21}}{x_2 + x_1 \Lambda_{21}} - \frac{\Lambda_{12}}{x_1 + x_2 \Lambda_{12}} \right]$$