

$$- T_{\text{film}} = \frac{T_{\infty} + T_s}{2} \quad P_{\infty} \xrightarrow{\quad} u_{\infty}, T_{\infty}$$

$$- Re_x = \rho u_{\infty} x / \mu$$

$$- Nu_x = \frac{h_x \cdot x}{k}$$

$$- Pr =$$

$$- h_x = Nu_x \cdot k / x$$

$$- \dot{q}''(\text{heat flux}) = h_x \cdot (T_s - T_{\infty})$$

$$a) T_{\text{film}} = \frac{T_{\infty} + T_s}{2} = 350 \text{ K}$$

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