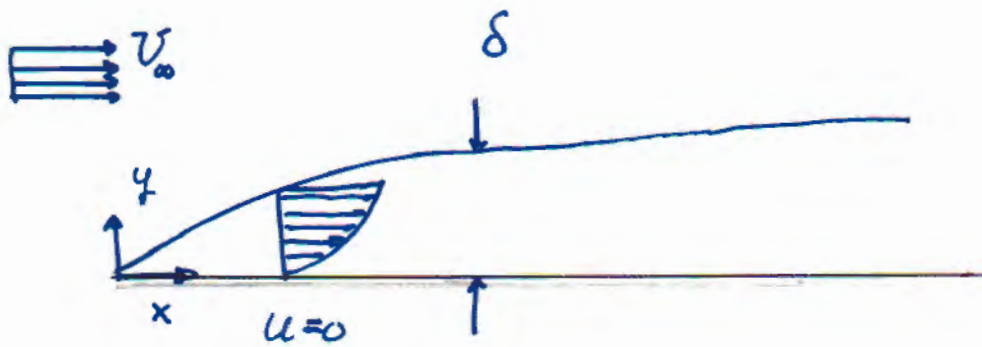


# The Magic PRANDTL Number



Fluids (momentum transfer)

$$\tau_w = \mu \left. \frac{du}{dy} \right|_{y=0}$$

$$\sim \mu \text{ ---}$$

$$\frac{\delta}{L} \sim$$

Heat transfer

$$h = \text{---}$$

$\sim$

$$Pr \equiv \text{---} = \text{---} = \text{---}$$

$$\frac{\delta_T}{\delta} \sim$$

$$h \sim \frac{k}{\delta_T} \sim$$

$$Nu \sim$$

(At least for laminar flow on plates.

Other flows [turbulent, internal, etc.]  
are more complicated.)