

(KEY CONCEPT) [D-3-2]

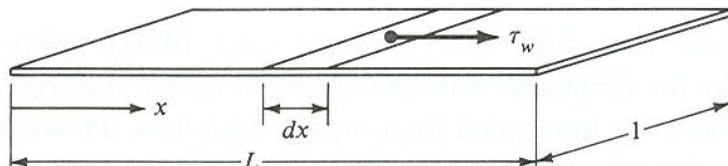
V_∞ →

Flat plate = zero pressure gradient

Laminar:

$$\delta = \frac{5.2x}{\sqrt{Re_x}}$$

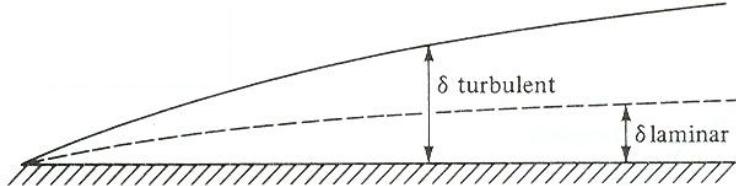
$$C_f = \frac{1.328}{\sqrt{Re_L}}$$



Turbulent:

$$\delta = \frac{0.37x}{Re_x^{0.2}}$$

$$C_f = \frac{0.074}{Re_L^{0.2}}$$



Boundary layer sketch (source: J.D. Anderson "Fundamentals of Aerodynamics" 2016)

