PROBLEM 9.72

9.73 Consider the boundary layer next to the smooth hull of a ship. The ship is cruising at a speed of 30 ft/s in 60°F fresh water. Assuming that the boundary layer on the ship hull develops the same as on a flat plate, determine

a. The thickness of the boundary layer at a distance of 100 ft downstream from the bow.

b. The velocity of the water at a point in the boundary layer at $y/\delta = 0.50$.

c. The shear stress, τ_0, adjacent to the hull at this position.