

Problem 4B.9

Checking solutions to unsteady flow problems.

- (a) Verify the solutions to the problems in Examples 4.1-1, 2, and 3 by showing that they satisfy the partial differential equations, initial conditions, and boundary conditions. To show that Eq. 4.1-15 satisfies the differential equation, one has to know how to differentiate an integral using the *Leibniz formula* given in §C.3.
- (b) In Example 4.1-3 the initial condition is not satisfied by Eq. 4.1-57. Why?