AE 360
Homework 11
Due: Thursday, 17 April 1997, in class

1. SAE30 oil is initially at rest above a flat plate of infinite extent. At $t = 0\ s$, the plate is suddenly accelerated to a constant velocity of 15 $\frac{m}{s}$. Assuming the flow is incompressible, laminar, and characterized by a velocity field in which $\mathbf{v} = u(y,t)\mathbf{i} + 0\mathbf{j} + 0\mathbf{k}$, show all steps to get the analytic solution for the velocity field and plot the variation of u versus y at three different times.

2. Fox and McDonald, 8.71, p. 400.

3. Fox and McDonald, 8.84, p. 401.

4. Fox and McDonald, 9.10, p. 470.

The final version of the project is also due.