AE 360
Homework 10
Due: Thursday, 3 April 1997, in class

   Reading: Anderson: Chapters 8, 9

1. An airfoil with a symmetric diamond shaped cross section is used to provide lift. The chord length is 2 m and the span is 5 m, and the angle ϵ, as sketched in the figure in the class notes is 10°. The airfoil is at an angle of attack of 5° and flies into calorically perfect ideal air at $M_1 = 2.0$, $T_1 = 300\ K$, $P_1 = 100\ kPa$. Calculate the lift force, the drag force, the lift coefficient and the drag coefficient.

2. For the above problem, compare your results to those of thin airfoil theory.

3. Anderson, 9.2, p. 292.

4. Anderson, 9.3, p. 292.

   Part 1 of the project is also due.