## Problem 304B

If the Mach number is defined as $u/(\gamma RT)^{1/2}$ where $u$ is the velocity and $T$ is the absolute temperature ($R = 280\ m^2/s^2\ K^\circ$, $\gamma = 1.4$ for air), find the ratio of the pressure at the stagnation point to the far upstream pressure for an airplane travelling at a Mach number of 4. Assume isentropic flow.