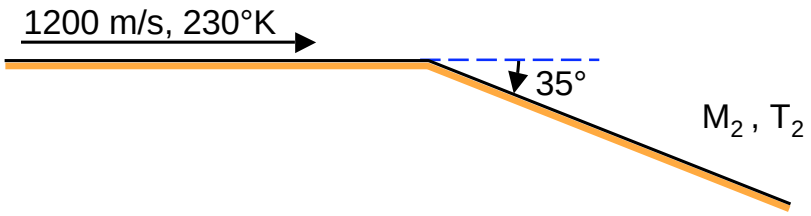
## Problem 350A

A stream of air ($\gamma = 1.4$, $R = 280\ m^2/s^2\ K°$) with a velocity of 1200 $m/s$ and a temperature of 230°$K$ approaches a turn away from the flow of angle 35 degrees :




Find the Mach number, $M_2$, the temperature, $T_2$, and the velocity of the flow downstream of the corner. If the temperature of the upstream flow is lowered while its velocity remains at 1200 $m/s$, what is the theoretical minimum upstream temperature at which the flow will still be able to negotiate the turn?