

Homework 2

1. Calculate the thickness of the layer 1000-500 hPa for a constant lapse rate atmosphere with $\gamma = 6.5 \text{ K/km}$ and $T_0 = 273 \text{ K}$.
2. Derive an expression for the density profile for isothermal conditions ($T_0 = 273 \text{ K}$) and a constant lapse rate (as given in the exercise above). Draw a plot of density with height for both cases.