Problem 1:

The single-row sheet pile structure shown in Figure below is designed to retain 6m of water. The flow net is drawn. if the permeability of the soil is 3×10^{-5} m/s, and $\gamma_{sat}=18$ kN/m³, Calculate:

- The total flow rate per day
- Pore water pressure at points a, b, and c.
- The effective stress at point a, b, and c.
- What is the maximum height of water above ground level the sheet pile can retain without becoming unstable?   *(hint: choose point c for your stability check)*