Tutorial - 12

Q. Stream of water is ~~collected from~~ heated from 14°C to 22°C using low pressure saturated steam at 30°C. The steam condensed over the cold water pipe and collected at bottom at 30°C. Surface area of cold water pipe is 45 m^2. Latent heat of condensation is 2431 $\frac{KJ}{Kg}$ and overall heat transfer coeff. between cold water and condensing steam is 2100 $\frac{W}{m^2 K}$. Calculate the flow rate of steam and water to achieve desired heating.