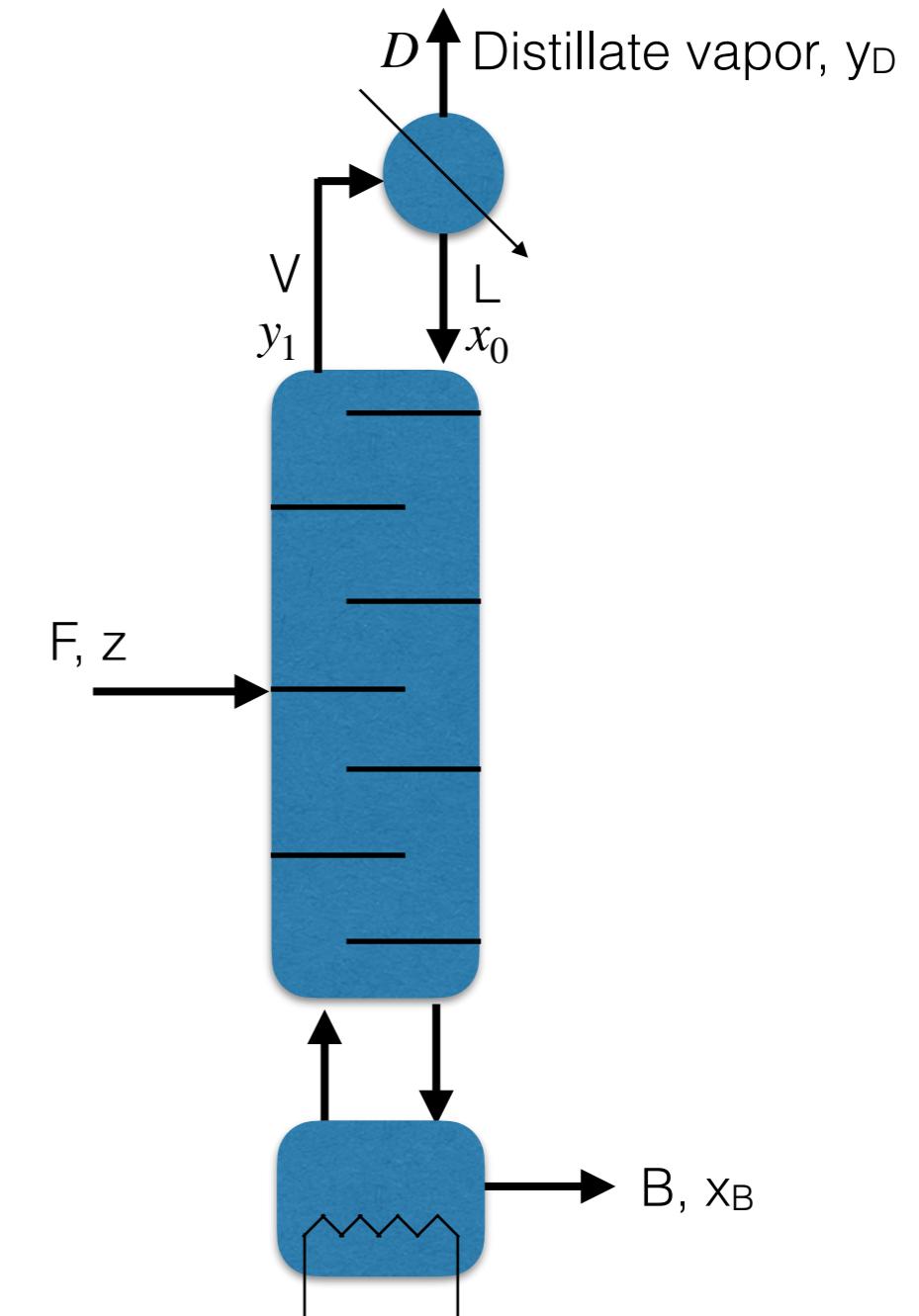
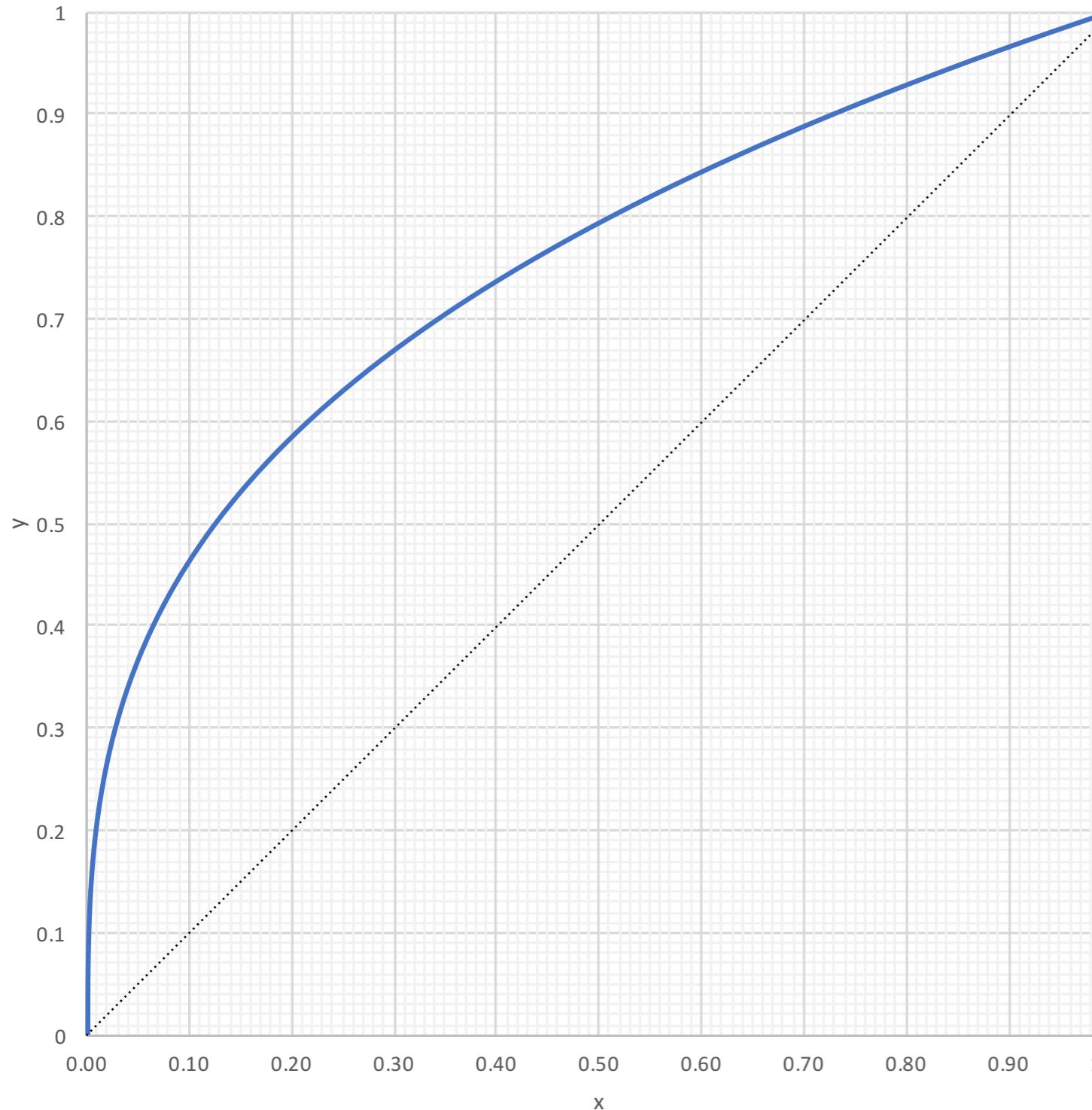


# Exercise problem 1

Partial condenser is used instead of total condenser

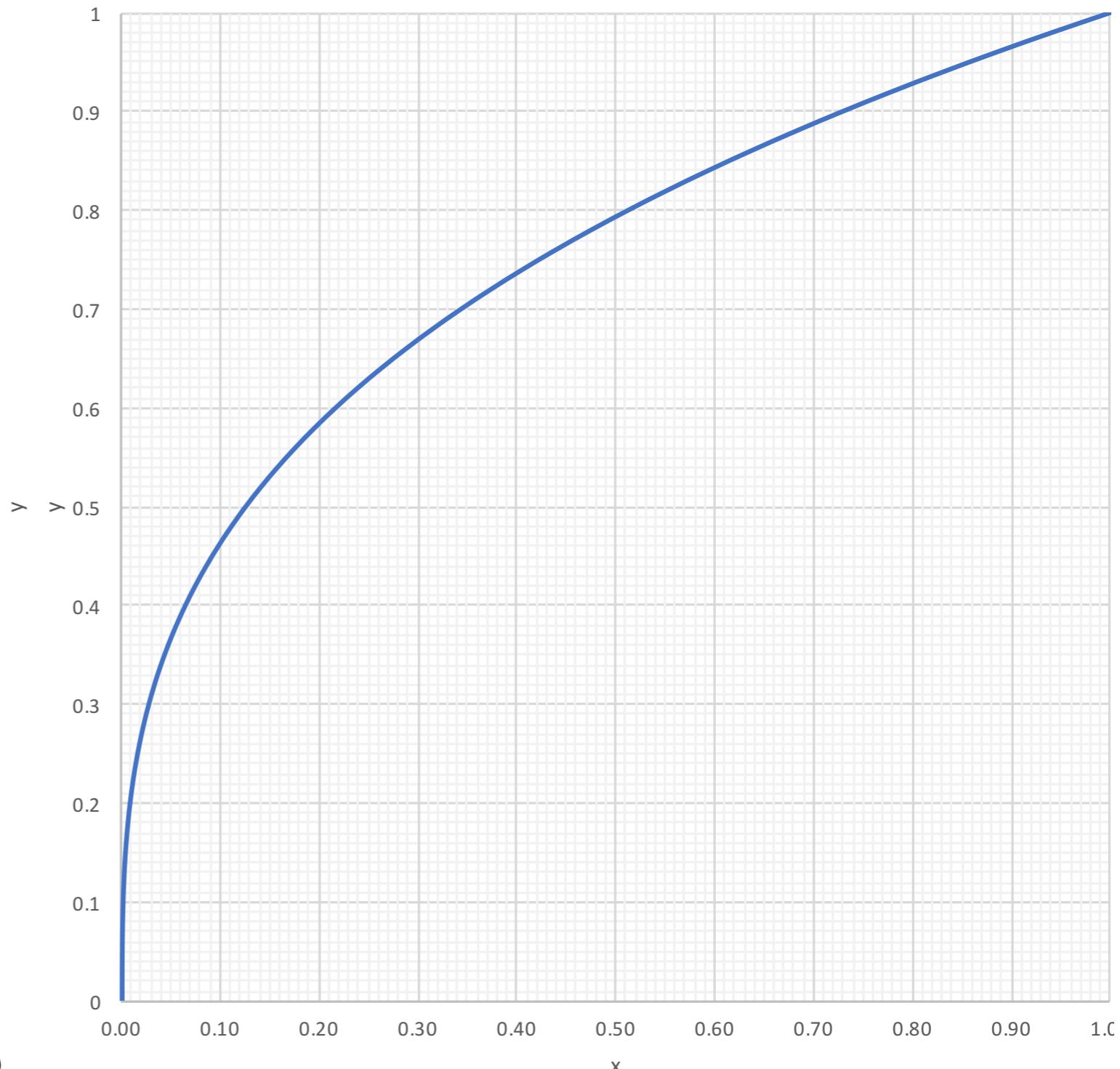
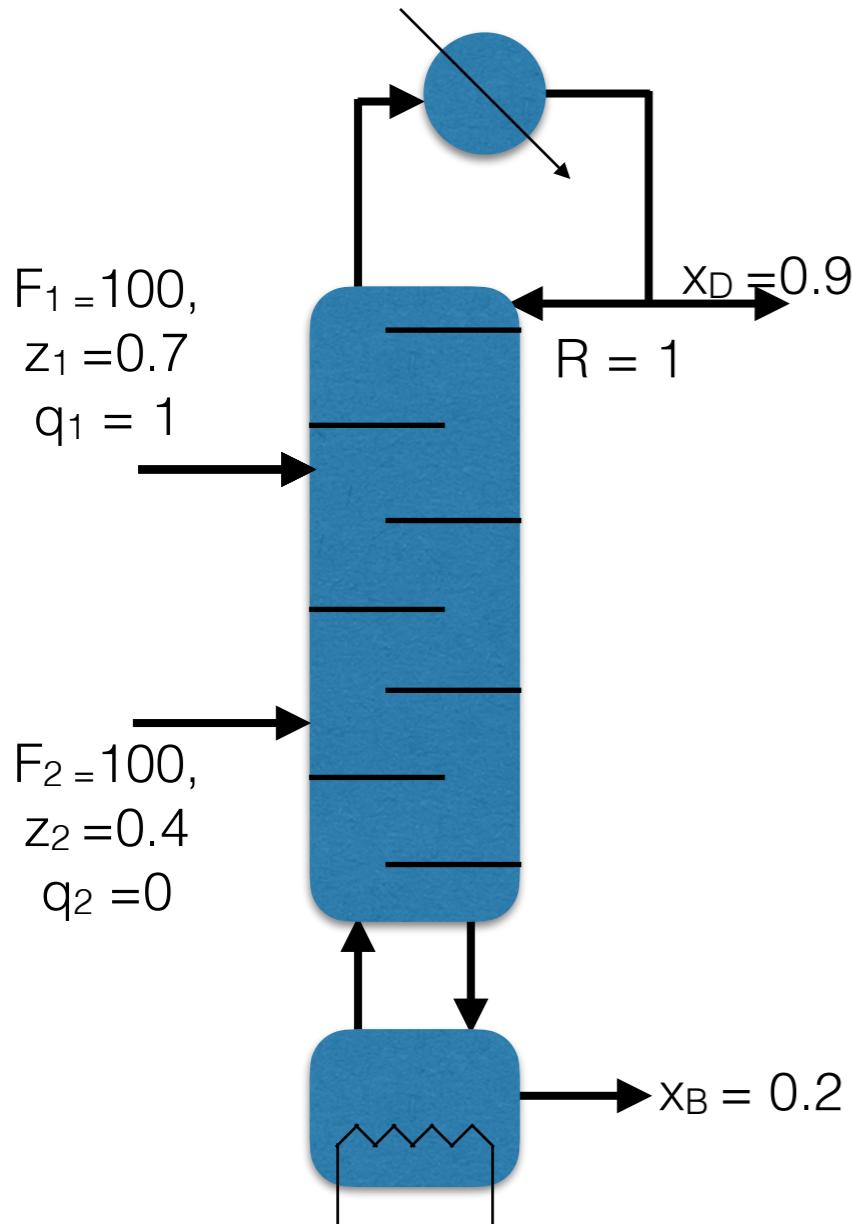
$y_D = 0.9$ ,  $x_B = 0.1$ ,  $z = 0.4$ . Two phase feed ( $q = 0.5$ ). Calculate the minimum reflux ratio.

1. The optimal reflux ratio was estimated to be when  $R = 3 R_{\min}$ . Calculate the number of stages.
2. In experiments, total number of stages (including partial condenser and partial reboiler) were found to be 10. What is the tray efficiency?



# Exercise problem 2: Column with 2 feeds

Calculate number of stages



$$\text{slope} = \frac{(L + q_1 F_1)}{(L + q_1 F_1) + D - F_1} = \frac{(RD + q_1 F_1)}{(RD + q_1 F_1) + D - F_1}$$