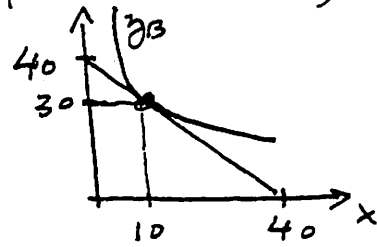


#8.5

#34 ⑤ $MRS^A = \alpha \frac{y_A}{x} = \left(\frac{1}{4}\right) \frac{y_A}{x}$ AND $MRS^B = \beta \frac{y_B}{x} = \left(\frac{1}{3}\right) \frac{y_B}{x}$; $MC=1$.

(a) $x + y_B = 40$ (BC)
 $\frac{1}{3} \left(\frac{y_B}{x}\right) = 1$ (MARGINAL)
 SOL'N: $x=10, y_B=30$.



(b) Ms. ALPHA:

$$\left(\frac{1}{4}\right) \frac{48 - s_A}{s_A + s_B} = 1$$

i.e., $4s_A + 4s_B = 48 - s_A$

i.e., $5s_A + 4s_B = 48$

MR. BETA:

$$\left(\frac{1}{3}\right) \frac{40 - s_B}{s_A + s_B} = 1$$

i.e., $3s_A + 3s_B = 40 - s_B$

i.e., $3s_A + 4s_B = 40$

← [REACTION FUNCTIONS] →

SOLUTION:

$$2s_A = 8; \therefore s_A = 4, s_B = 7; x = s_A + s_B = 11,$$

$$y_A = 44, y_B = 33.$$

$$MRS^A = MRS^B = 1$$

(c) INCREASE BOTH s_A AND s_B BY 1, TO YIELD $x=13$,

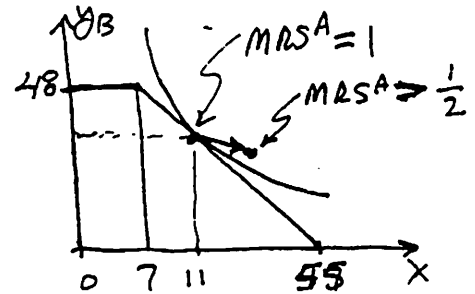
$$y_A = 43, y_B = 32, \text{ WHERE}$$

$$MRS^A = \left(\frac{1}{4}\right) \frac{43}{13} > \frac{1}{2}$$

$$MRS^B = \left(\frac{1}{3}\right) \frac{32}{13} > \frac{1}{2},$$

$$\text{SO THAT } u^A(13, 43) > u^A(11, 44)$$

$$\text{AND } u^B(13, 32) > u^B(11, 33).$$



(d) MARGINAL: $MRS^A + MRS^B = MC$; i.e., $\alpha \frac{y_A}{x} + \beta \frac{y_B}{x} = 1$;

i.e., $x = \alpha y_A + \beta y_B$.

ON-THE-CONSTRAINT: $x + y_A + y_B = 88$.

(e) LINDAHL (PERSONAL) PRICES: INDIVIDUAL CAN MANIPULATE HIS PRICE. ELICITATION OF PREFERENCE: INDIVIDUAL WILL "UNDER-REPORT"