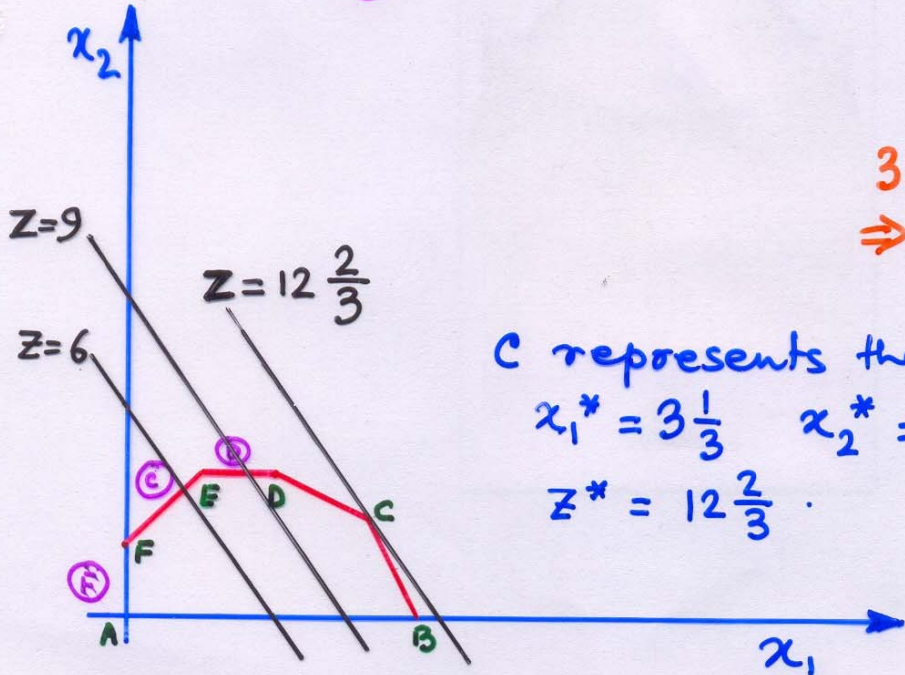
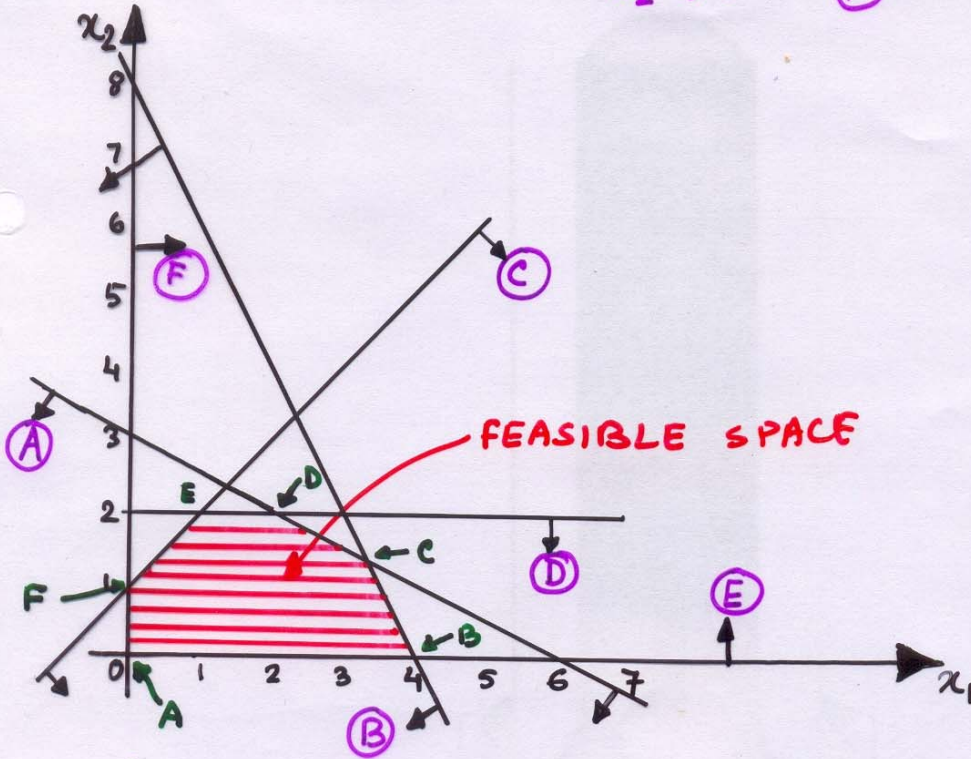


LINEAR PROGRAMMING (CONCEPTS)

Maximize $Z = 3x_1 + 2x_2$

Subject to:

$$\begin{aligned} x_1 + 2x_2 &\leq 6 && \text{(A)} \\ 2x_1 + x_2 &\leq 8 && \text{(B)} \\ -x_1 + x_2 &\leq 1 && \text{(C)} \\ x_2 &\leq 2 && \text{(D)} \\ x_1 &\geq 0 && \text{(E)} \\ x_2 &\geq 0 && \text{(F)} \end{aligned}$$



$$\begin{aligned} 3x_1 + 2x_2 &= Z \\ \Rightarrow x_2 &= -1.5x_1 + Z/2 \end{aligned}$$

C represents the optimal point
 $x_1^* = 3\frac{1}{3}$ $x_2^* = 1\frac{1}{3}$
 $Z^* = 12\frac{2}{3}$