LightPDF

Maximización de la Producción

$$V = f(x_1 . x_2) + \lambda (c^\circ - P_1 x_1 - P_2 x_2)$$

$$c^\circ = P_1 x_1 + P_2 x_2$$

① $q = 3x_1 . x_2$

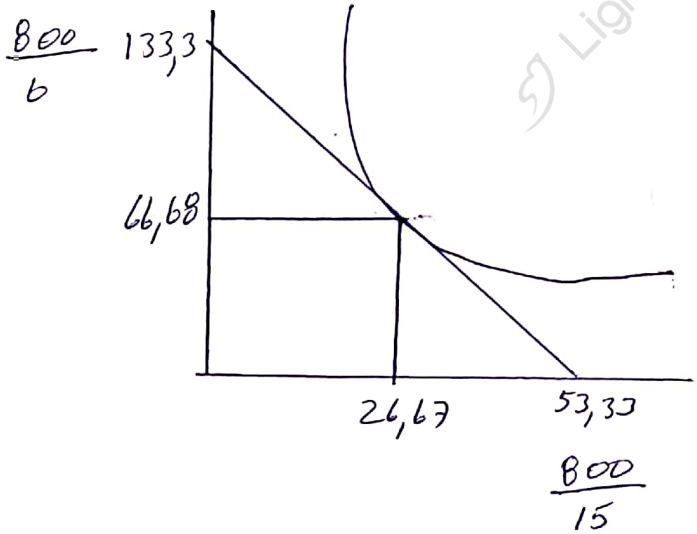
$P_1 = 15$

$P_2 = 6$

$C^\circ = 800$ Uds

$800 = 15 x_1 + 6 x_2$

$800 - 15 x_1 - 6 x_2 = 0$



$$V = 3x_1 . x_2 + \lambda (800 - 15x_1 - 6x_2)$$

$$\frac{dV}{dx_1} = 3x_2 - 15\lambda = 0 \quad (-1) \rightarrow \lambda = \frac{3x_2}{15}$$

$$\frac{dV}{dx_2} = 3x_1 - 6\lambda = 0 \quad (-1) \rightarrow \lambda = \frac{3x_1}{6}$$

$$\frac{dV}{d\lambda} = 800 - 15x_1 - 6x_2 = 0$$

Escaneado con CamScanner

TODOS SOMOS ALFA

$$\frac{3x_2}{15} = \frac{3x_1}{6}$$

$$x_2 = \frac{3x_1 \cdot 15}{18}$$

$$x_2 = 2{,}5x_1 //$$

$$800 - 15x_1 - 6(2{,}5x_1) = 0$$

$$800 - 15x_1 - 15x_1 = 0$$

$$800 = 30x_1$$

$$26{,}67 = x_1 //$$

$$x_2 = 2{,}5(26{,}67)$$

$$x_2 = 66{,}68 //$$

$$q = 3x_1 \cdot x_2$$

$$q = 3(26{,}67)(66{,}68)$$

$$q = 5335{,}07 //$$

(2) $q = (x_1 + 3)(2x_2 + 5)$

$c^o = 2000$

$P_1 = 18$

$P_2 = 25$