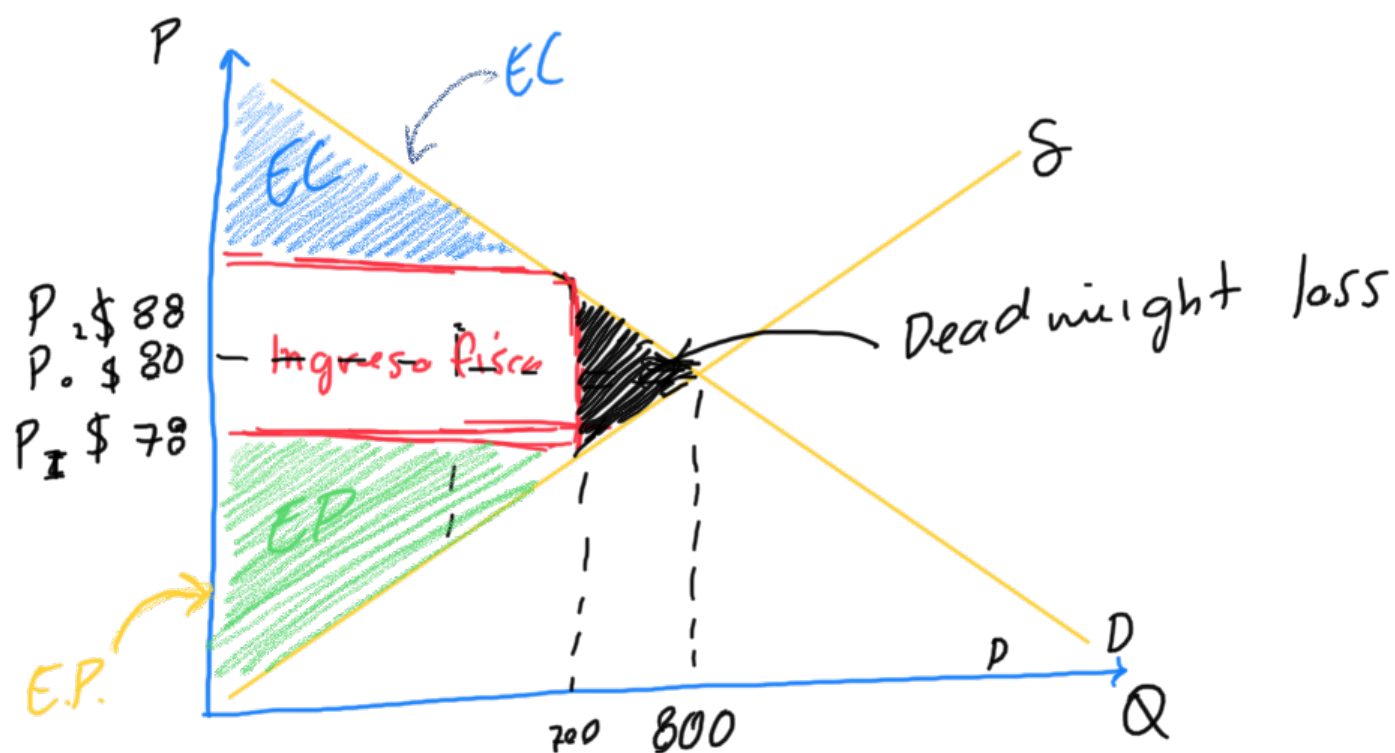


1)

\$80 por habitación
 800 habitaciones
 \$10 de impuesto por habitación
 \$88 tras impuesto
 # habitaciones cae a 700

a) # Cantidad de ingresos fiscales

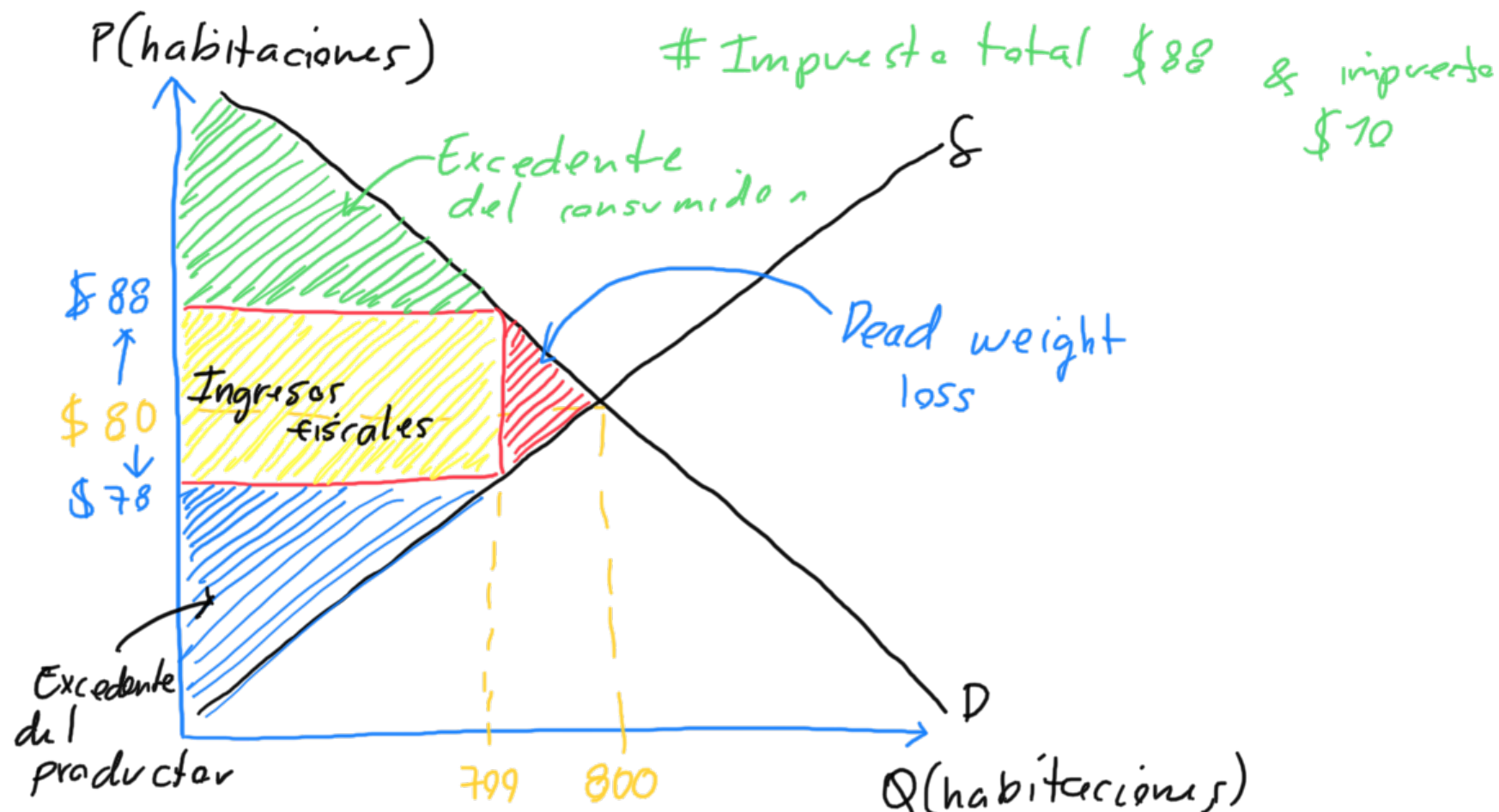


Cálculo de ingresos fiscales

$C_{IF} = 10 * 700 = 7,000$ de ingresos fiscales en dólares.

$D_w = 100 * 10 = 1,000 * \frac{1}{2} = \500 dead weight loss

Resolución de clase



Ingresos fiscales = área del rectángulo

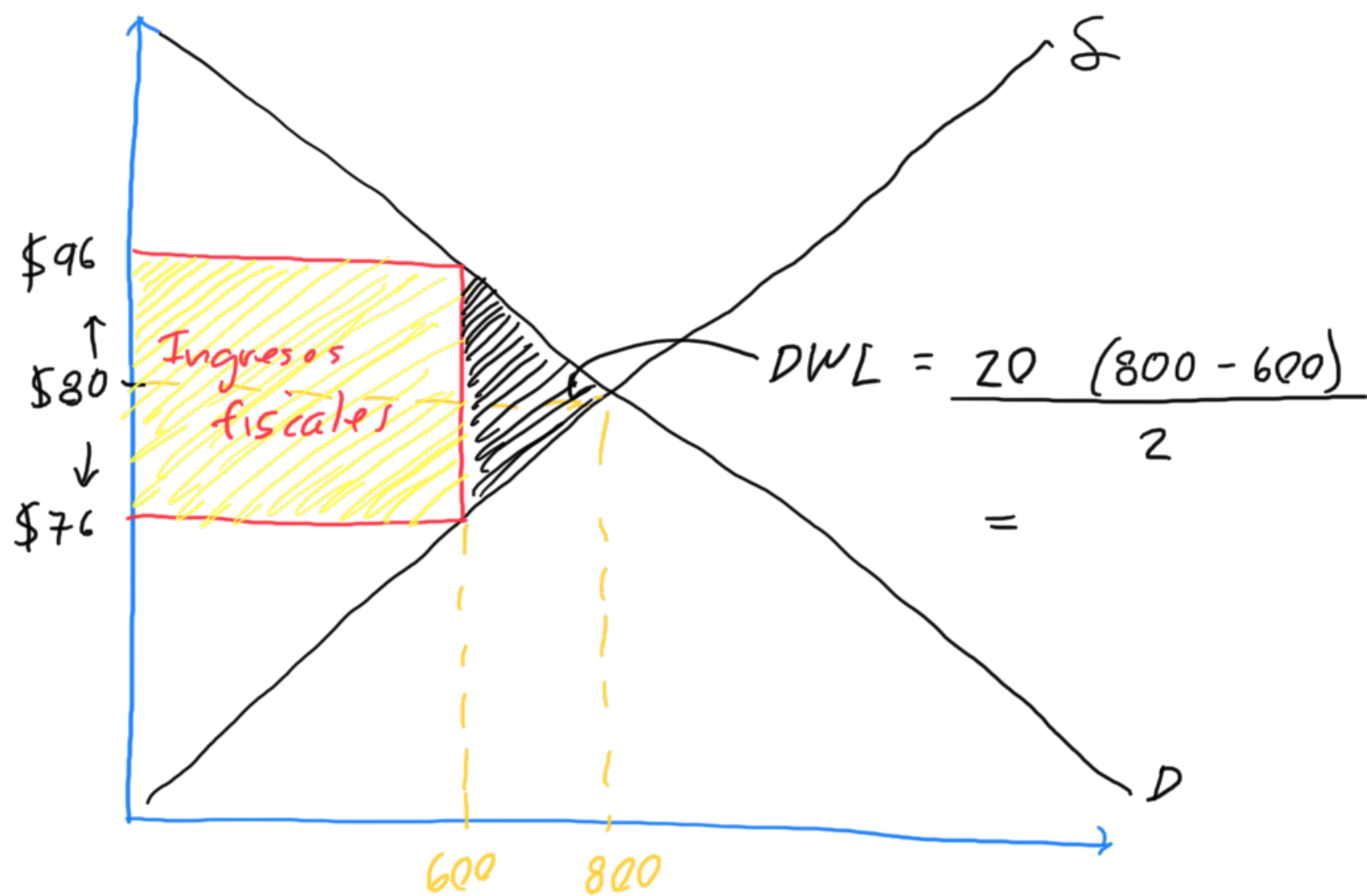
$$= 10 * 700 = 7,000$$

Dead weight loss = $\frac{\text{base} * \text{altura}}{2}$

$$= \frac{10 * (800 - 700)}{2}$$

$$= \$ 500$$

Qué pasa si el impuesto es \$20

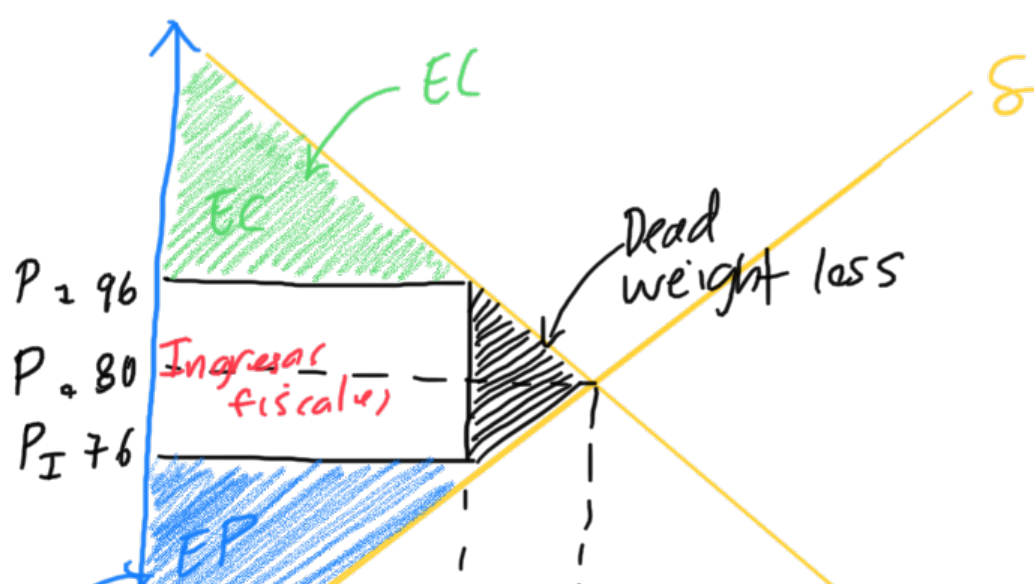


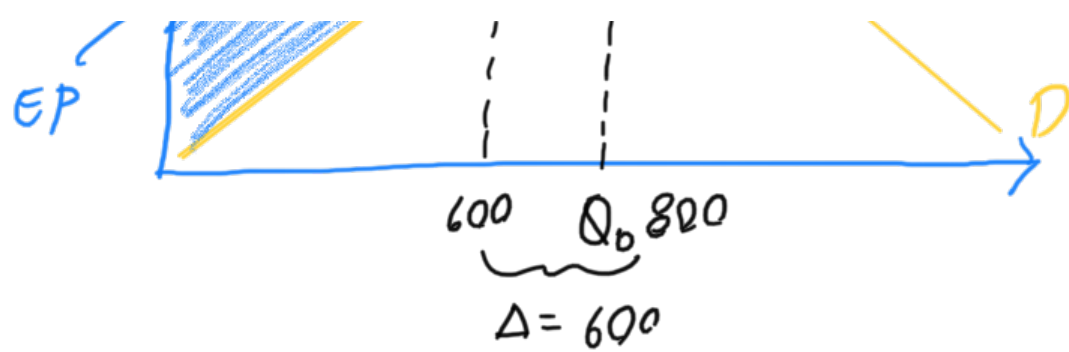
fin resolución clase

b) # Impuesto ↑ a \$20

Precio ↑ \$96 por habitación

habitaciones rentadas baja a 600





$$C_{IF} = 20 \times 600 = 12,000 \text{ \$ de ingreso fiscal}$$

$$D_w = 20 * 200 * \frac{1}{2} = 2,000 \text{ \$ de dead weight loss}$$

2) # Demanda de aceite de coco

$$a) Q = 1,200 - 9.5p + 16.2pp + \underline{0.2Y}$$

Q de aceite

p precio en centavos

pp aceite palma

Y ingreso de consumidores

Suponer $p = 45 \text{ ¢}$

$pp = 31 \text{ ¢}$

$Q = 1,275$

$$Q = 1200 - 9.5(45) + 16.2(31) + 0.2Y$$

$$Q = 1274.7 + 0.2Y$$

$$1275 - 1274.7 = 0.2Y$$

$$\frac{1275 - 1274.7}{0.2} = Y$$

$$\frac{3}{2} = Y$$

derivar respecto de Y

$$Q' = 0 + 0 + 0 + 0.2$$

$$Q = 0 - 0 + 0 + 0 -$$

$$Q' = 0.2$$

$$\frac{\Delta Q}{\Delta Y} = \frac{1}{5}$$

Reemplazar

$$E_I = \frac{\Delta Q}{\Delta Y} \cdot \frac{Y}{Q}$$

$$E_I = \frac{1}{5} * \left[\frac{\frac{3}{2}}{\frac{1275}{11}} \right] = \frac{1}{5} * \left[\frac{3}{2 \cdot 117.5} \right] = \frac{1}{5} * \frac{3}{2550} = \frac{1}{4250} = \dots$$

$$\approx 0.000235294$$

$\therefore E_I \in \mathbb{R}^+ \Rightarrow$ es positivo es un bien normal.

b)

$$E_p = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

$$Q = 1,200 - 9.5P + 16.2PP + 0.2Y$$

$$Q' = 0 - 9.5 + 0 + 0$$

$$Q' = -9.5 \leftarrow \frac{\Delta Q}{\Delta P}$$

$$E_p = -9.5 \cdot \frac{45}{1275} \approx -0.3352941176$$

\therefore Inelástico $1 <$

c)

$$16.2 \cdot \frac{31}{1275} \approx 0.3938823529$$

\therefore Bienes sustitutos

$$Q = 1200 - 9.5P + 16.2PP + 0.2Y$$

#

$$P = 45$$

$$PP = 31$$

$$Q = 1275$$

$$1275 = 1200 - 9.5(45) + 16.2(31) + 0.2Y$$

$$Y = 1.5$$

Elasticidad ingreso

$$\epsilon_Y = \frac{\Delta Q}{\Delta Y} \cdot \frac{Y}{Q}$$

$$\epsilon_Y = \frac{dQ}{dY} \cdot \frac{Y}{Q}$$

$$\epsilon_Y = 0.2 \cdot \frac{1.5}{1.275} = 0.00023$$

¿Qué tipos de bienes son?

$$\epsilon_Y \in \mathbb{R}^+ = \text{normal}$$

$$\epsilon_Y \in \mathbb{R}^- = \text{inferior}$$

if ($\epsilon_Y \in \mathbb{R}^+$) {

bien normal;

} else {

bien inferior

}

Elasticidad precio

$$\epsilon_P = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

$$\epsilon_P = -9.5 \cdot \frac{45}{1275}$$

$$= -0.34 \text{ } \{ \text{inelástica}$$

$\left[\begin{array}{l} \text{if } (\epsilon_P < 1) \{ \\ \quad \text{inelástica;} \\ \} \text{ else } \{ \\ \quad \text{elástica;} \\ \} \end{array} \right]$

Elasticidad Cruzada

$$\epsilon_c = \frac{\Delta Q}{\Delta P_{PP}} \cdot \frac{P_{PP}}{Q}$$

La derivada de Q con
 # respecto al aceite de palma.

$$\epsilon_c = 16.2 \cdot \frac{31}{1275} = \underbrace{0.39}_{\text{sustituto}}$$

$\left[\begin{array}{l} \text{if } (\epsilon_c \in \mathbb{R}^+) \{ \\ \quad \text{bienes sustitutos;} \\ \} \text{ else } \{ \\ \quad \text{bienes complementos;} \\ \} \end{array} \right]$

Fin de resolución

3) a) $U = BC$

B, hamburguesas

C, cigarrillos semanales

OP

TMS: pendiente de la K'

$$T_{ms} = -\frac{B}{C}$$

b) $120 = 2B + 1C$

TMT: Tangente a curva de indiferencia

$$T_{MT} = -2$$

c) $T_{MS} = T_{MT}$

$$-\frac{B}{C} = -2$$

$$\frac{B}{C} = 2$$

$$B = 2C$$

$$\frac{B}{C} = 2$$

$$\frac{B}{2} = C$$

Reemplazar en ec.

$$120 = 2(2C) + C$$

$$120 = 4C + C$$

$$120 = 5C$$

$$\frac{120}{5} = C$$

$$C = 24$$

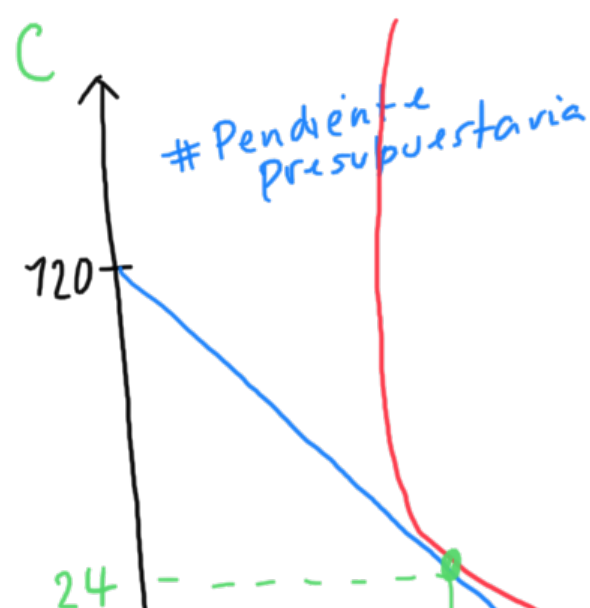
$$120 = 2B + 24$$

$$120 - 24 = 2B$$

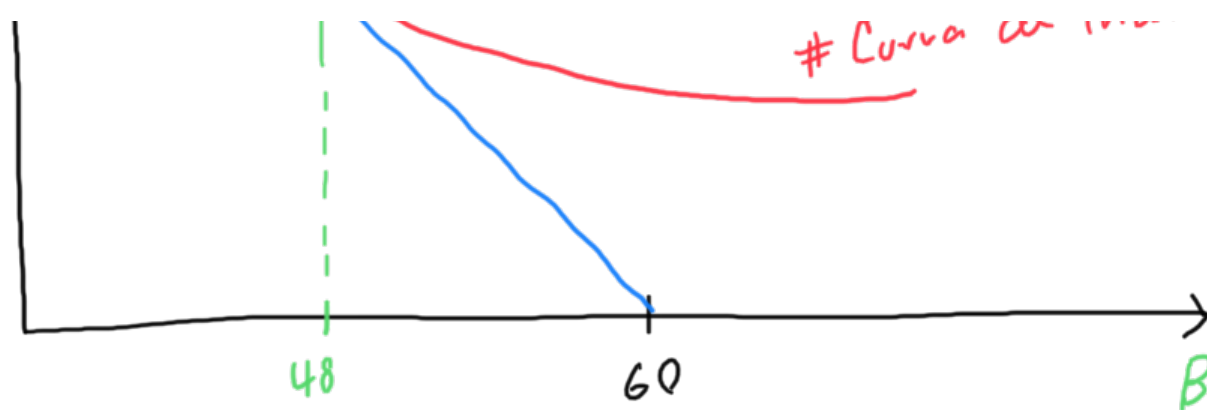
$$96 = 2B$$

$$\frac{96}{2} = B$$

$$48 = B$$



de indiferencia



D) $-\frac{B}{C} = -3$ # Impuesto de \$3

$+\frac{B}{C} = +3$

$\frac{B}{C} = 3$

$B = 3C$

Sustituyo en ecuación

$120 = 3(3C) + C$

$120 = 9C + C$

$120 = 10C$

$\frac{120}{10} = C$

$12 = C$

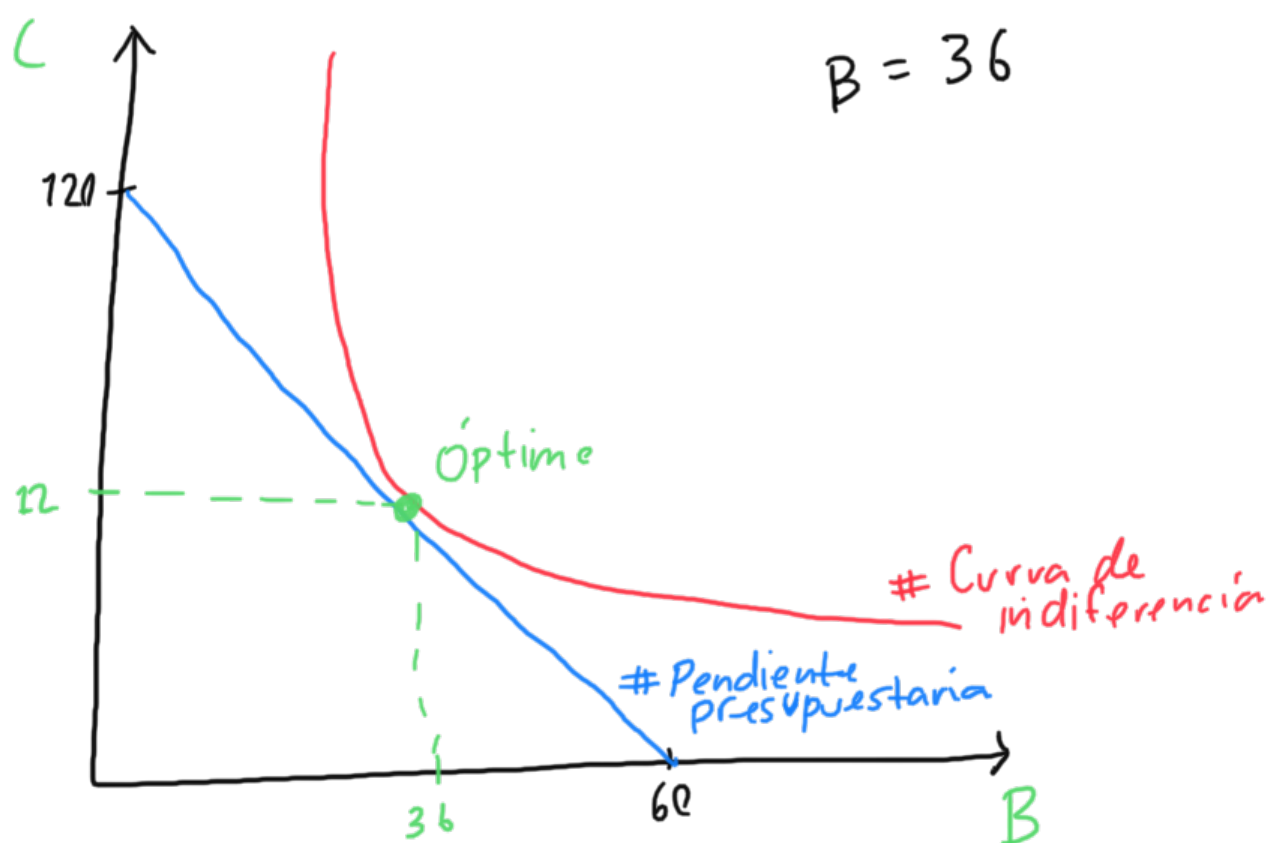
$120 = 3B + 12$

$120 - 12 = 3B$

$108 = 3B$

$\frac{108}{3} = B$

$B = 36$



Resolución de clase:

Restricción presupuestaria:

$$U = BC$$

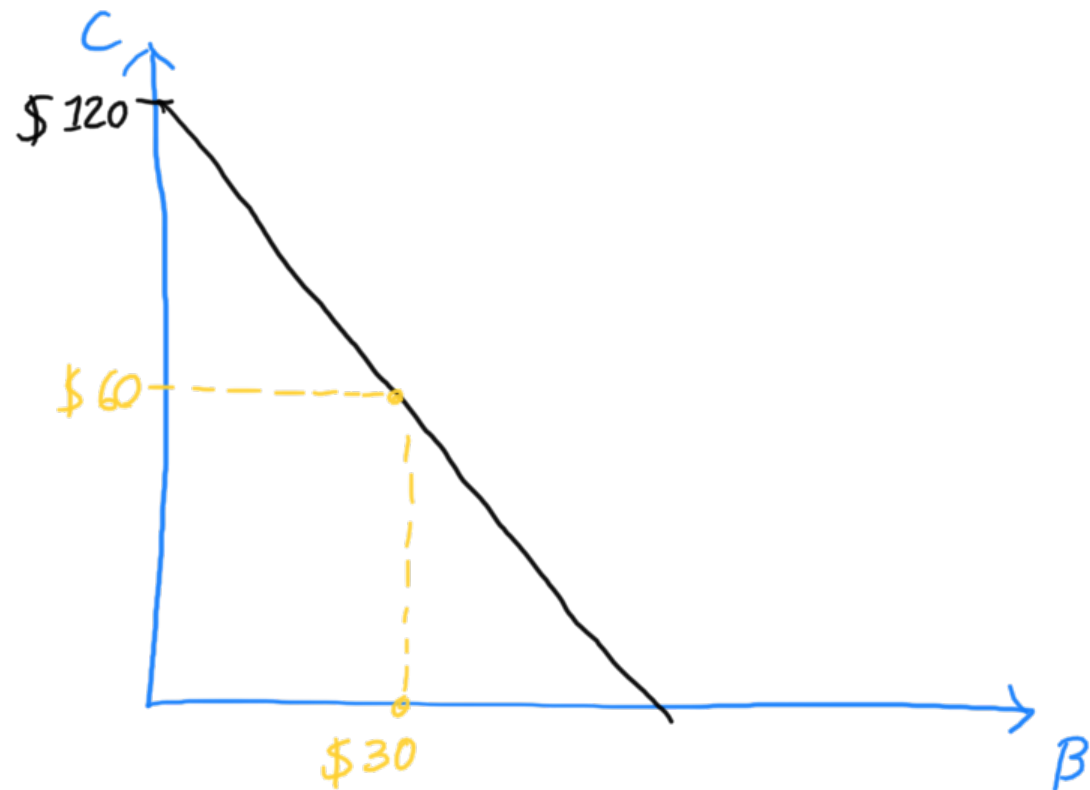
$$Y = \$120$$

$$P_B = \$2$$

$$P_C = \$1$$

$$Y = Q_B P_B + Q_C P_C$$

$$a) 120 = 2B + C$$



$$b) TMT = \frac{P_B}{P_C}$$

$$TMT = -\frac{2}{1} = -2$$

$$c) TMS = -\frac{UM_B}{UM_C}$$

$$TMS = \frac{\frac{du}{dB}}{\frac{du}{dC}} = \frac{C}{B}$$

D) # Igualar $TMS = TMT$
Para ver el punto óptimo

Arriba siempre
ira X.

$$-2 = -\frac{C}{B}$$

$$2B = C$$

Sustituir en restricción presupuestaria

$$120 = 2B + C$$

$$120 = 2B + 2B$$

$$120 = 4B$$

$$30 = B$$

$$C = 60$$

Fin de resolución

4) $U(x, z) = 10 x^2 z$

Bien x es de \$10

Bien z es de \$5

Ingreso es \$150

a) Restricción presupuestaria:

Ec. RP

$$150 = 10x + 5z$$

Asumir $x = 0$

$$150 = \cancel{10(0)} + 5z$$

$$150 = 5z$$

$$\frac{150}{5} = z$$

$$z = 30$$

Asumir $y = 0$

$$150 = 10x + \cancel{5(0)}$$

$$150 = 10x$$

$$\frac{150}{10} = x$$

$$x = 15$$

\therefore Interceptos en $(0, 30)$ & $(15, 0)$

b) TMT

$$T_{MT} = -\frac{10}{5} = \boxed{-2}$$

c) TMS

$$T_{MS} = -\frac{10x^2}{20xz} = -\frac{\cancel{10}x \cdot x}{\cancel{20}x \cdot z} = -\frac{1}{2} \cdot \frac{x}{z} = -\frac{x}{2z}$$

d) Combinación óptima: $T_{MT} = T_{MS}$:

$$2 = \frac{x}{2z}$$

$$2 = \frac{x}{2z}$$

$$4z = x$$

$$150 = 10x + 5z$$

$$150 = 10(4z) + 5z$$

$$150 = 40z + 5z$$

$$150 = 45z$$

$$\frac{150}{45} = z$$

$$\approx 3.33$$

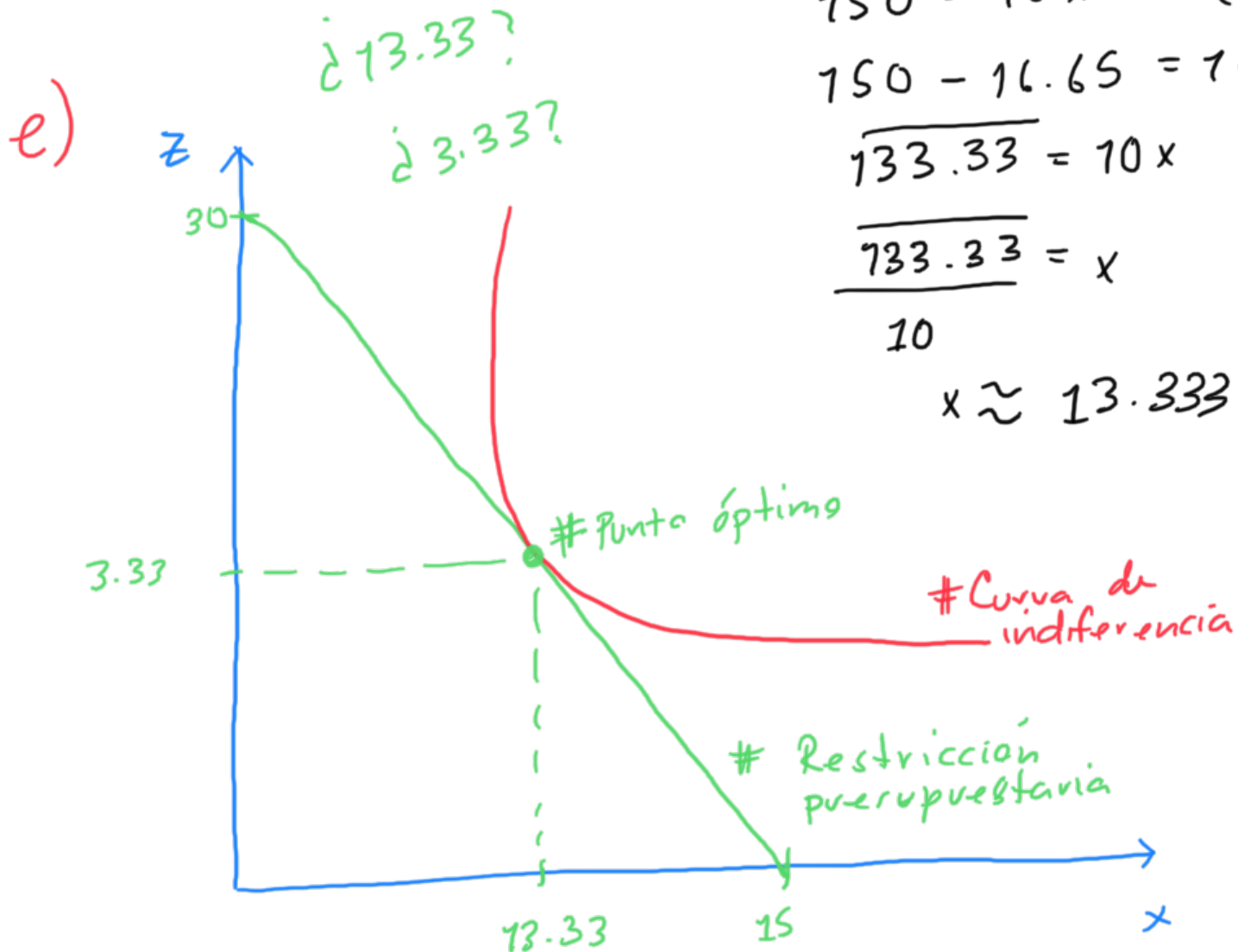
$$150 = 10x + 5(3.33)$$

$$150 - 16.65 = 10x$$

$$\frac{133.33}{10} = x$$

$$\frac{133.33}{10} = x$$

$$x \approx 13.333$$



Resolución 4.c).

$$U = 10x^2z$$

$$TMS = \frac{-U_{Mx}}{U_{Mz}} = \frac{-20xz}{10x^2} = \frac{-2z}{x}$$

$$\frac{-2z}{x} = -2$$

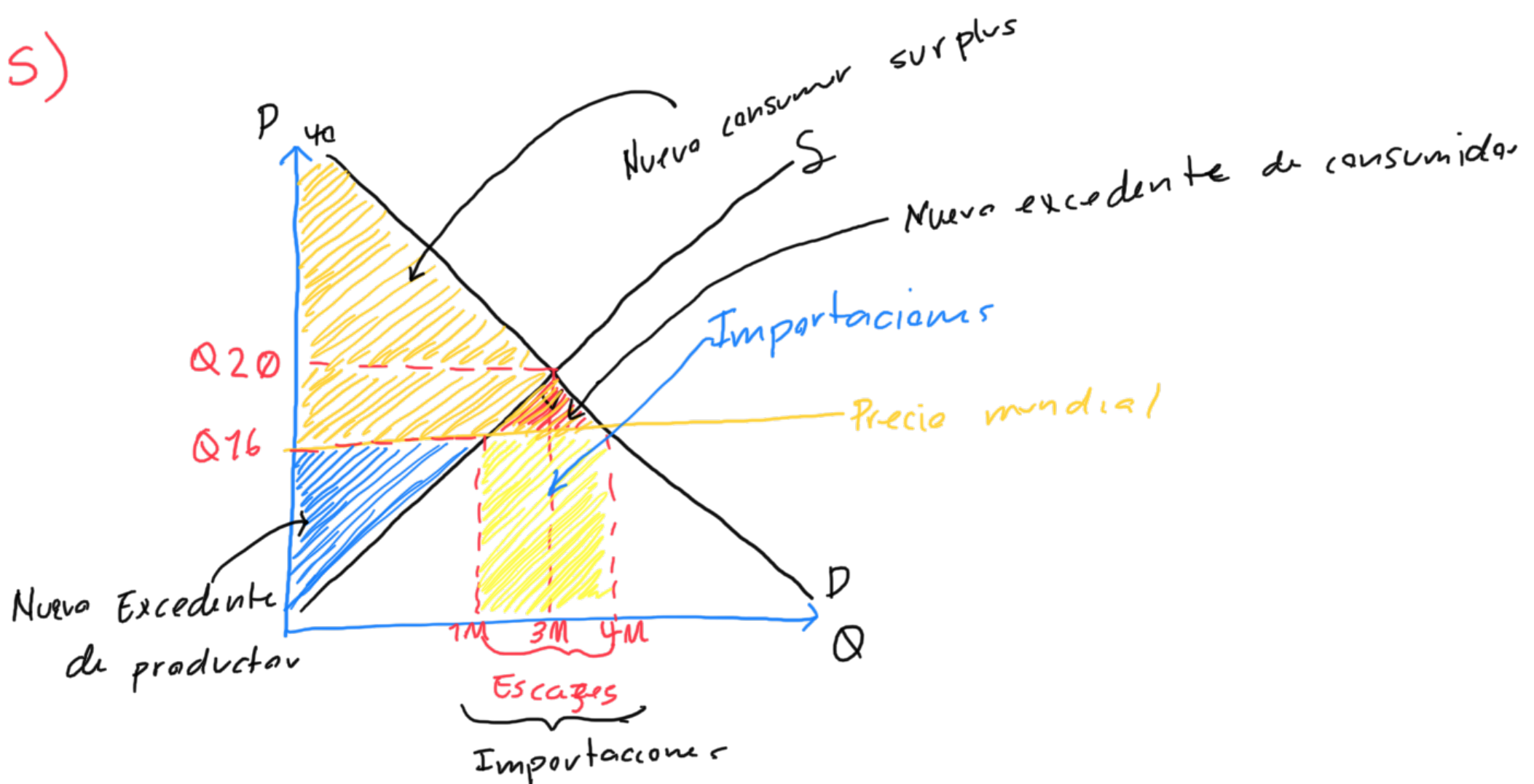
$$2z = 2x$$

$$z = x$$

Fin Resolución.

Resolución de clase

S)



$$\begin{aligned}
 IMP &= (4M - 1M) (\$16) \\
 &= (3M) (16) = \$48M
 \end{aligned}$$

$$E_{\text{sin comercio}} = \frac{(40 - 20)(3)}{2} = 30M$$

$$E_{\text{comercio}} = \frac{(40 - 16)(4)}{2} = 48M$$

$$EP_{\text{sin comercio}} = \$30M$$

$$EP_{\text{comercio}} = \$48M$$

Reducción: Los consumidores salen ganando más, los productores pierden.

Fin