Precept 1 : Candy

$$Q_d(P) = 300 - 3P + 4I \quad \Leftrightarrow \quad P = \left(100 + \frac{4I}{3}\right) - \frac{Q}{3}$$

$$Q_s(P) = 3P - 50 \quad \Leftrightarrow \quad P = \frac{50 + Q}{3}$$

a) $Q_d(P^*) = Q_s(P^*)$

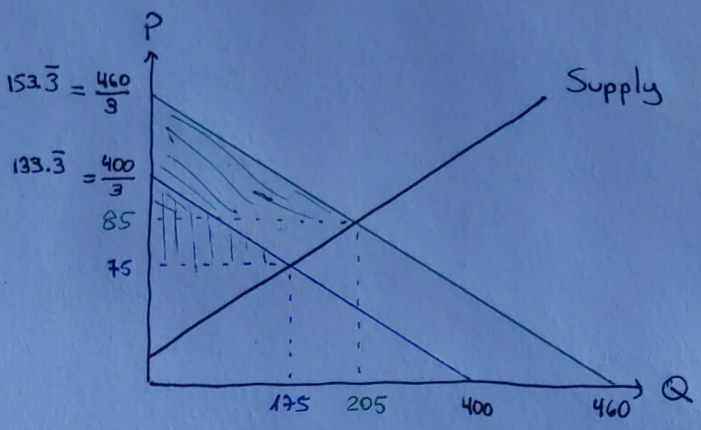
$400 - 3P = 3P - 50$

$P^* = 75 \quad \Rightarrow \quad Q^* = 175$

$$CS = \left(\frac{400}{3} - 75\right) \cdot 175 \cdot \frac{1}{2} =$$

$$= \frac{175}{3} \cdot \frac{175}{2} = \frac{175^2}{6} = \frac{30{,}625}{6}$$

$$\approx 5{,}104.1\overline{6}$$



c,b) $Q_D(P^*; I = 40) = Q_s(P^*)$

$460 - 3P = 3P - 50$

$P^* = 85 \quad ; \quad Q^* = 205$

$$CS = \left(\frac{460}{3} - 85\right) \cdot 205 \cdot \frac{1}{2}$$

$$= \frac{205}{3} \cdot \frac{205}{2} = \frac{42{,}025}{6} \approx 7{,}004.1\overline{6}$$

d) We start backwards: $Q^* = 160. \Rightarrow P^* = 70.$ Plugging in demand:

$160 = 300 - 3 \cdot 70 + 4I^*$

$\Rightarrow I^* = \frac{35}{2} = 17.5$

$\Rightarrow$ She has to take 22.5!

Since everything is linear, this negative shock to demand will reduce CS.

Problem 2: NCC apts

a) $160 - 8P = 70 + 7P \Rightarrow P = 6 \Rightarrow$ Rent price is \$600.

Substituting in either demand or supply $\Rightarrow Q_D = 160 - 8 \cdot 6 = 112.$

$Q_S = 70 + 7 \cdot 6 = 112.$

Quantity is 1,112,000 apts!

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At ~~\$800~~ \$300 ($P = 3$), we have that $Q_S = 70 + 7 \cdot 3 = 91$,

$\Rightarrow$ 910,000 apts, so a decrease of 210,000 apts.

What about population? ASSUMPTION: 3 ppl per apt

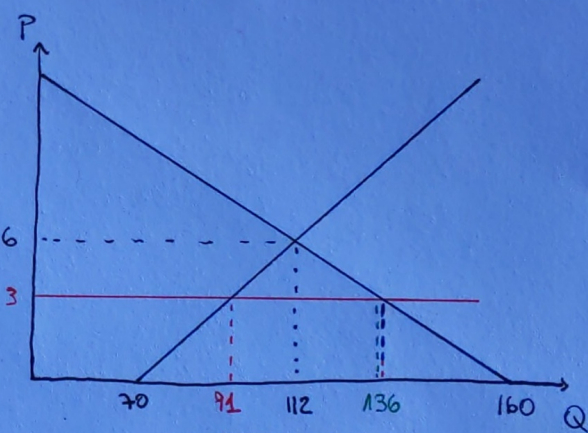
$\Rightarrow \Delta^-$ 630,000 people.

b) If $P = 9$, ~~\$1200~~

$\Rightarrow Q_D = 160 - 8 \cdot 9 = 88,$

or 880,000 units.

This is still 240,000 less than with market eq., so no new units are built.



ppl who leave. Δ^- 21 Δ^+ 24 apartments demanded, but ppl not moving in.

45 TOTAL shortage