

$$1.) \quad Q_S = 400p - 100$$

$$P_S = \frac{q}{400} + \frac{1}{4}$$

$$Q_D = 1100 - 200p$$

$$P_D = 5,5 - q/200$$

2)

$$\frac{q}{400} + 0,25 = 5,5 - q/200$$

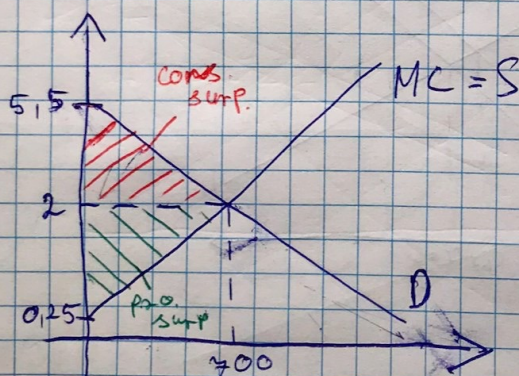
$$\frac{q + 100}{400} = \frac{2200 - 2q}{400}$$

$$q + 100 = 2200 - 2q$$

$$3q = 2100$$

$$q = 700$$

$$P(700) = \frac{700}{400} + 0,25 = 2$$



• consumer surplus:

$$\frac{(5,5 - 2) \cdot 700}{2} = \underline{\underline{1225}}$$

• producer surplus:

$$\frac{(2 - 0,25) \cdot 700}{2} = \underline{\underline{612,5}}$$



2)

1)

$$Q_D = 1100 - 200p$$

$$Q_D = 1100 - 200(p+1)$$

$$Q_D = 1100 - 200p - 200$$

$$Q_{D2} = 900 - 200p$$

$$p = 4,5 - q/200$$

2)

$$900 - 200p = 400p - 100$$

$$1000 = 600p$$

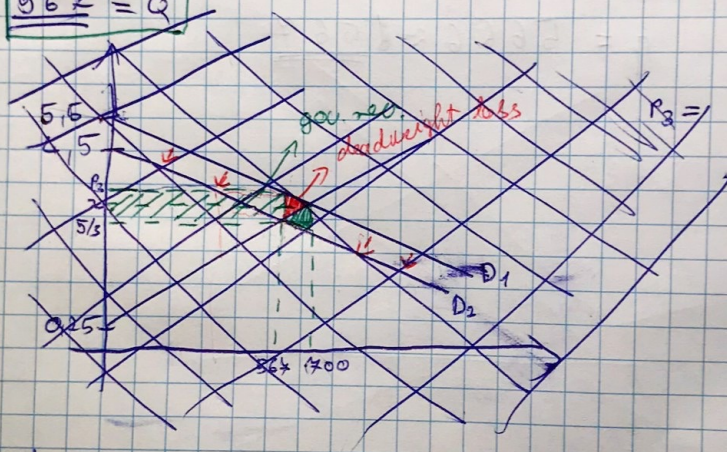
$$\frac{5}{3} = p$$

3)

$$400 \cdot \frac{5}{3} - 100 = 566,6$$

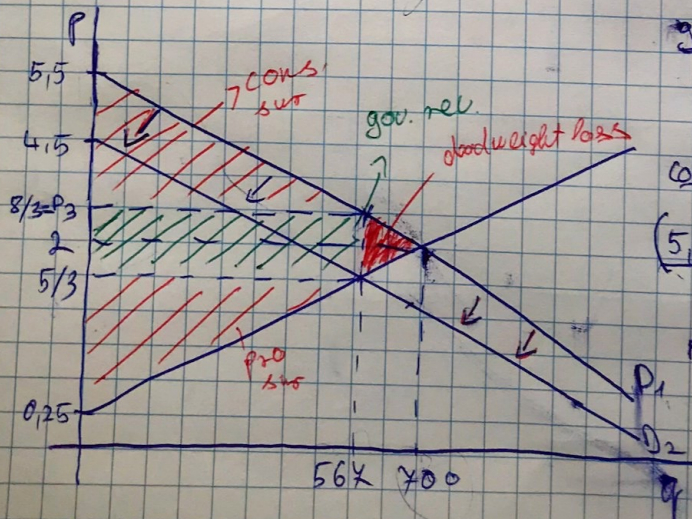
$\approx$

$$564 = Q$$



$$P_3 = 5,5 - \frac{564}{200}$$

$$= \frac{8}{3}$$



gov. rev:

$$1 \cdot 564 = 564$$

cons. sur:

$$(5,5 - 8/3) \cdot 564 = 803,25$$

prod. surp:

$$(5/3 - 0,25) \cdot 564$$

$$= 401,625$$

deadweight loss:

$$\frac{(400 - 564) \cdot 1}{2} = 66,5$$



3.)

$$Q_D = 1100 - 200p$$

$$P = 5,5 - \frac{Q}{200}$$

1.)

$$Q_S = 400p - 100$$

+ 1\$ tax

$$Q_S = 400(p-1) - 100$$

$$Q_S = 400p - 400 - 100$$

$$Q_S + 500 = 400p$$

$$P = \frac{Q}{400} + 1,25$$

$$Q_{S2} = 400p - 500$$

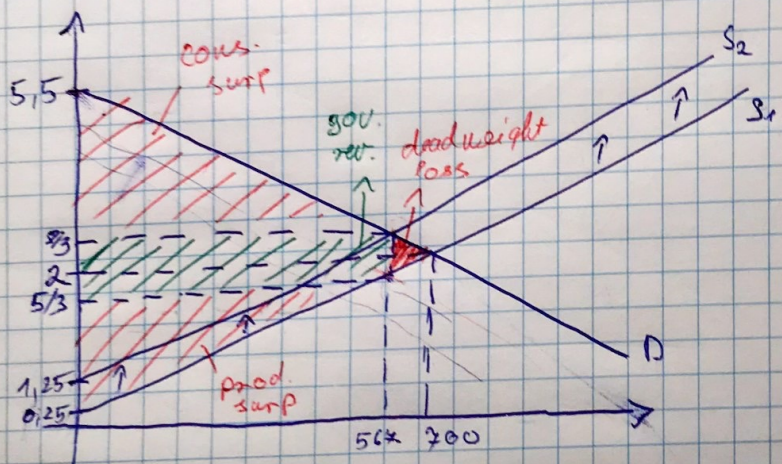
$$400p - 500 = 1100 - 200p$$

$$600p = 1600$$

$$P = \frac{8}{3}$$

$$Q_D\left(\frac{8}{3}\right) = 1100 - 200 \cdot \frac{8}{3} = 566,6 \approx \underline{567} \quad \left(= \frac{1400}{3}\right)$$

8.1



cons. surp:

$$\frac{(5,5 - 8/3) \cdot 567}{2} = \underline{803,25}$$

prod. surp:

$$\frac{(5/3 - 0,25) \cdot 567}{2} = \underline{401,625}$$

deadweight loss

$$\frac{(400 - 567) \cdot 1}{2} = \underline{66,5}$$

gov. rev

$$1 \cdot 567 = \underline{567}$$