

Oef 12 p A.16

geg: X beheerde markt

$$D^{-1}(q) = -\frac{1}{3}q^2 - q + 24$$

$$\bar{K}(q) = \frac{1}{9}q^2 - 3q + 12 = \frac{K(q)}{q}$$

$$\Rightarrow K(q) = q\bar{K}(q) = \frac{1}{9}q^3 - 3q^2 + 12q$$

gev:

(a) $\frac{ED^{-1}(q)}{E_q}(q) = -1$ (overgang elast-inelast)

$$q \cdot \frac{(D^{-1}(q))'}{D^{-1}(q)} = q \cdot \frac{-\frac{2}{3}q - 1}{-\frac{1}{3}q^2 - q + 24} = -1$$

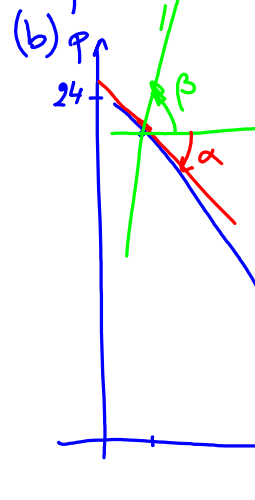
$$\Leftrightarrow -\frac{2}{3}q^2 - q = \frac{1}{3}q^2 + q - 24$$

$$\Leftrightarrow q^2 + 2q - 24 = 0$$

$$D' = 1 + 24 = 25$$

$$q = -1 \pm 5 = \begin{cases} 4 \\ -6 \end{cases}$$

$$p = D^{-1}(4) = -\frac{16}{3} - 4 + 24 = +\frac{44}{3}$$



$$\frac{ED^{-1}(q)}{E_q} = \frac{\tan \alpha}{\tan \beta} = \frac{\text{rico vkel tov } q=as}{\text{rico voverstr tov } q=as}$$

voverstr is steeper
kan vkel

$$\Rightarrow |\text{elast}| < 1$$

$$\Rightarrow \text{inelast pt}$$

(c) belast op goed: t

? t : belast op br max

X monopolie \rightarrow Winst max

$$W(q) = R(q) - K(q) - T(q)$$

$$= q \cdot D^{-1}(q) - K(q) - t \cdot q$$

$$= q \left(-\frac{1}{3}q^2 - q + 24 \right) - \frac{1}{9}q^3 + 3q^2 - 12q - tq$$

$$= -\frac{4}{9}q^3 + 2q^2 + 12q - t \cdot q$$

? Winst max: $W'(q) = 0$

$$W'(q) = -\frac{4}{3}q^2 + 4q + 12 - t = 0$$

$$t = -\frac{4}{3}q^2 + 4q + 12$$

? $T(q)$ max

$$T(q) = t \cdot q$$

$$= q \left(-\frac{4}{3}q^2 + 4q + 12 \right)$$

$$= -\frac{4}{3}q^3 + 4q^2 + 12q$$

$$T_{\max}: T'(q) = 0$$

$$\Leftrightarrow -4q^2 + 8q + 12 = 0$$

$$\Leftrightarrow q^2 - 2q - 3 = 0 \Leftrightarrow q = \begin{matrix} 3 \\ -1 \end{matrix}$$

$$t = -\frac{4}{3} \cdot 9 + 4 \cdot 3 + 12 = 12$$

$$T_{\max} = t \cdot q = 12 \cdot 3 = 36$$