

EXERCISE THREE

Monopolist

$$TC(Q) = 1000 + 10Q$$

$$P(Q) = 150 - 2Q$$

a) Q_M
 P_M

b) π

c) DL

q)

$$MR = \frac{dTR}{dQ} = MC \rightarrow \frac{(150 - 2Q) \cdot Q}{Q} \rightarrow \frac{150Q - 2Q^2}{Q} = \frac{150 - 4Q}{1}$$

$$MR = MC \rightarrow 150 - 4Q = 10$$

$$150 - 4Q = 10$$

$$4Q = 140$$

$$Q_M = 35$$

$$\Rightarrow P_M = 150 - 2(35) = 80$$

b) $\pi = TR - TC = (P \cdot Q) - (FC + VC) = 2800 - 1350 = 1450$

c) Is there any Deadweight loss? Explain the source of inefficiency

Deadweight loss is present because the quantity the Monopolist chooses to sell at that particular price, is not the quantity that consumers are willing to pay for at the particular price

