$$D(p) = 100000 - p$$

a)

inverse demand function is $P = 100000 - Q_D$

competitive market equilibrium→ $P = MC = 100000 - Q_D = 10000 \rightarrow Q^* = 90000$

$Q^* = 90000, P^* = 10000$

b)

$MR' = MR + EB = 100000 + 10000 - Q_D = 110000 - Q_D$

New market equilibrium $MR' = MC \rightarrow 110000 - Q_D = 10000 \rightarrow Q^{*'} = 100000$

c)