A) \( C(q) = 500,000 + 0.1 \cdot 8,000,000 + 4q = 1,300,000 + 4q \); (We have to include opportunity cost of 0.1 \( \cdot \) 8,000,000 in total costs)

B) \( q_m = 10,000,000 \) is the maximum capacity of production once the land and equipment have been purchased.

The minimum price, at which it is profitable to produce is:

\[
\frac{500,000}{q_m} + \frac{4q_m}{q_m} = \frac{500,000}{10,000,000} + 4 = 4.05
\]

\( N^0 = 2.8 \)

A) \( TR(q) = p \cdot q = \left(102 - \frac{q}{100}\right) \cdot q \)

B) \( MR(q) = \frac{dTR(q)}{dq} = 102 - \frac{q}{50} \)

C) \( MR(q) = MC(q) \Rightarrow 102 - \frac{q^*}{50} = q^* \Rightarrow q^* = 100 \)

Profit = \( TR - C(q) = p^* q^* - \left(\frac{q^*}{2}\right)^2 = \left(102 - \frac{100}{100}\right) \cdot 100 - \frac{100^2}{2} = 500 \)

\( N^0 = 2.9 \)

A) \( TR(q) = p q \), \( p = 500 - \frac{q}{2} \)

\( \Rightarrow TR = \left(500 - \frac{q}{2}\right)q \)

\( \Rightarrow MR = 500 - q \).
6) \[ \frac{\partial \pi}{\partial p} = 5000 - 2q = 0 \implies p^* = \frac{5000}{2} = 2500 \] generates the greatest revenue

\( p^* = 5000 - \frac{q}{2} = 2500 \) generates the greatest revenue

C) \( TC = VC + FC = (80 + 30)q + 25000 = 50q + 25000 \)

\[ \implies mc = 50 \]

\( mc = mR \implies 500 - q = 50 \)

\[ \implies q^{**} = 450 \]

\[ \implies p^{**} = 500 - \frac{450}{2} = 275. \] - profit maximizing price.

\( N = 4, 3. \)

(i)

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<th>I</th>
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a) can be solved by dominant strategies (I dominates FC)

b) \( NE = \{I, I\} \)

c) Players are rational and believe other player is rational

(ii)

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a) can be solved by dominant strategies

b) \( NE = \{I, FC\} \)

c) Players are rational and believe other player is rational

(iii)

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<tr>
<td>I</td>
<td>50,70</td>
<td>30,20</td>
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a) can not be solved by dominant strategies

b) \( NE = \{I, FC, (FC, I)\} \)

c) Players are rational and believe other player is rational.
In case of U.S. L dominates H.

\[ NE = \frac{1}{2} (L, H) \]

Players behave rationally; players are rational, and believe other player is also rational, and how rational believe about him.