1. A small country can import a good at a world price of 10 per unit. The domestic supply curve of the good is: \( S = 50 + 5P \)
The demand curve is \( D = 400 - 10P \)

In addition, each unit of production yields a marginal social benefit of 10.
(a) Calculate the total effect on welfare of a tariff of 5 per unit levied on imports.
(b) Calculate the total effect of a production subsidy of 5 per unit.
(c) Why does the production subsidy produce a greater gain in welfare than the tariff?
(d) What would the optimal production subsidy be?

2. Suppose that ABC is a Taiwanese firm, and XYZ is a Korean firm. The following payoffs result, depending on the firm decisions. What equilibrium, and what payoffs will result if there is no government intervention?

<table>
<thead>
<tr>
<th></th>
<th>ABC Produce</th>
<th>ABC Not Produce</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYZ Produce</td>
<td>-40,25</td>
<td>60,0</td>
</tr>
<tr>
<td>XYZ Not Produce</td>
<td>0,150</td>
<td>0,0</td>
</tr>
</tbody>
</table>

3. Strategic trade. The cost for production is 3,000 per car in the US and 2,000 per car in Japan. Suppose automobile prices are described by the following inverse demand function:

\[ P = 60,000 - 20(X_{us} + X_{j}) \]

(a) Derive the reaction function for US producers. IE \( X_{us}(x_{j}) \), express the number of US cars produced as a function of Japanese production.

Now consider the reaction functions graphed below and use them to answer the questions b and c.

(b) Which reaction function does the arrow point to? \( X_{us}(x_{j}) \) or \( x_{j}(X_{us}) \)?
(c) What factors may cause any US strategic trade policy attempts to fail? List 2.