Please answer the following questions. Be precise and thorough in explaining your answers.

Q.1: Countries Alpha and Beta have identical production possibilities frontiers for producing goods X and Y under increasing cost conditions. Residents of Alpha prefer to consume large amounts of X and small amounts of Y. Residents of Beta prefer to consume large amounts of Y and small amounts of good X.

(a) What conditions must be the same in the two countries to result in identical production possibilities frontiers? Explain.
(b) Illustrate the autarky equilibriums for the two countries.
(c) What is the pattern of comparative advantage? Explain.
(d) If the two countries open trade, how will they specialize in their production? Which country will produce which good? Will they specialize completely, or only partially? Explain.

Q.2: Use the information in the following table to answer parts (a) to (f) below:

<table>
<thead>
<tr>
<th>Country</th>
<th>Capital Endowment (Billions of $)</th>
<th>Labor Endowment (1,000 Persons)</th>
<th>Capital/Labor (Billion $ per 1,000 Persons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>6,597</td>
<td>12,470</td>
<td>0.53</td>
</tr>
<tr>
<td>United States</td>
<td>785,933</td>
<td>76,595</td>
<td>10.26</td>
</tr>
</tbody>
</table>

(a) Define factor abundance. Which country is labor abundant? Which country is capital abundant?
(b) Assume that aircraft production is capital intensive and that apparel production is labor intensive. Sketch the U.S. and Philippine production possibilities frontiers for aircraft and apparel. Explain why you drew them as you did.
(c) If tastes for aircraft and apparel are identical in the United States and the Philippines, which country would have a comparative advantage in what good? Explain how you know.
(d) Illustrate the autarky and unrestricted-trade equilibria for the two countries.
(e) What will happen to the relative price of aircraft and apparel in each country when they open trade?