### Absolute Costs (labor hours)

<table>
<thead>
<tr>
<th></th>
<th>Milk</th>
<th>Cereal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawksland</td>
<td>2 hr</td>
<td>6 hr</td>
</tr>
<tr>
<td>Wigglesworth</td>
<td>3 hr</td>
<td>15 hr</td>
</tr>
</tbody>
</table>

Which nation has the absolute advantage in Milk production? ________

Which nation has the absolute advantage in Cereal production? ______

Which nation has the comparative advantage in Milk production? _____

Which nation has the comparative advantage in Cereal production? ___

Assume that each nation has **240** labor hours available.

- Graph each nation’s PPF.
- Indicate the slope of each country’s PPF.
- What is a trade rate (i.e. terms of trade) at which both nations can gain?
- Indicate where each country should produce. Assume complete specialization.
- Indicate where each country consumes. (Make sure the amount of milk one country imports equals the amount of milk the other exports. Likewise, make sure the amount of cereal one country imports equals the amount of cereal the other exports.)
- Indicate the rate at which the nations are trading (i.e. show the Terms of Trade)
### Gains from Specialization

<table>
<thead>
<tr>
<th></th>
<th>Hawksland</th>
<th></th>
<th>Wigglesworth</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Milk</td>
<td>Cereal</td>
<td>Milk</td>
<td>Cereal</td>
</tr>
<tr>
<td>Production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Exports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Imports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= Consumption</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Which group(s) gain from trade in Hawksland? ______________________________
- Which group(s) lose from trade in Hawksland? ______________________________
- Which group(s) gain from trade in Wigglesworth? ____________________________
- Which group(s) lose from trade in Wigglesworth? ____________________________
- Will the loses (indicated above) continue forever? Why or why not?


Which nation has the absolute advantage in Milk production? Hawksland

Which nation has the absolute advantage in Cereal production? Hawksland

Which nation has the comparative advantage in Milk production? W

Which nation has the comparative advantage in Cereal production? H

Assume that each nation has 240 labor hours available.

- Graph each nation’s PPF.
- Indicate the slope of each country’s PPF.
- What is a trade rate (i.e. terms of trade) at which both nations can gain? Anything between 3M:C & 5M:C. 4M:C, 3.5M:C, 4.3M:C etc.
- Indicate where each country should produce. Assume complete specialization.
- Indicate where each country consumes. (Make sure the amount of milk one country imports equals the amount of milk the other exports. Likewise, make sure the amount of cereal one country imports equals the amount of cereal the other exports.)
- Indicate the rate at which the nations are trading (i.e. show the Terms of Trade)
Gains from Specialization: an example

Notes:
1) The TOT can be anywhere 3M:C and 5M:C. I used TOT = 4M:C.
2) The volume of exports and imports can also vary as long as:
   a) All trade takes place at the same TOT.
   b) one nation’s exports of Cereal = the other nation’s imports of cereal.
   c) one nation’s exports of Milk = the other nation’s imports of Milk.
   d) neither nation is exporting more than it can produce.

<table>
<thead>
<tr>
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<th>Wigglesworth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Milk</td>
<td>Cereal</td>
</tr>
<tr>
<td>Production</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>- Exports</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>+ Imports</td>
<td>52</td>
<td>0</td>
</tr>
<tr>
<td>= Consumption</td>
<td>52</td>
<td>27</td>
</tr>
</tbody>
</table>
Hawksland can get Milk best by specializing in its area of comparative advantage (cereal) and then trading.

Internally, it would get only 3 Milk for each cereal if it shifted resources from cereal production to milk production.

By trading, it can get 4 milk for each cereal.

Wigglesworth can get Cereal best by specializing in its area of comparative advantage (Milk) and then trading.

Internally, it would have to give up 5 Milk for each cereal if it shifted resources from Milk production to cereal production.

By trading, it only has to give up 4 milk for each cereal.
• Which group(s) gain from trade in Hawksland? Cereal producers (and their employees). Also, consumers. Don’t forget that consumers gain. They are living at higher standards of living than before. In fact, empirically, the gains to consumers are the biggest gain (because they are a heck of a lot of them) from trade.

• Which group(s) lose from trade in Hawksland? Milk producers. They are at a comparative disadvantage and can’t compete with the Milk producers in Wigglesworth.

• Which group(s) gain from trade in Wigglesworth? Milk producers (and their employees). Also, consumers. Don’t forget that consumers gain. They are living at higher standards of living than before. In fact, empirically, the gains to consumers are the biggest gain (because they are a heck of a lot of them) from trade.

• Which group(s) lose from trade in Wigglesworth? Cereal producers. They are at a comparative disadvantage and can’t compete with the Cereal producers in Hawksland.

• Will the loses (indicated above) continue forever? Why or why not? No, eventually the resources (or their kids) would shift into what that nation does best (its comparative advantage).