1. (1) 

- **Firm** 
  - labor 
  - wage $15/hour 

- **Household** = Martin 
  - labor 
  - wage $15/hour 

- **Factor Market** 

2. (2) 

- **Earning** 
  - $200 
  - Goods/Service Market 

- **Firm** 

- **Household** = Maria 
  - Earning 
  - $200 

3. **False.** The statement is a "normative" statement because it includes "should" this word.
(2) Bicycle opportunity cost of additional 100 bicycles

<table>
<thead>
<tr>
<th>Range</th>
<th>Opportunity Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0~100</td>
<td>20 computers</td>
</tr>
<tr>
<td>100~200</td>
<td>40 computers</td>
</tr>
<tr>
<td>200~300</td>
<td>60 computers</td>
</tr>
<tr>
<td>300~400</td>
<td>100 computers</td>
</tr>
<tr>
<td>400~500</td>
<td>200 computers</td>
</tr>
</tbody>
</table>

\[ \Rightarrow \text{opportunity cost is going up, so PPF has a bowed-out shape.} \]

(3) Because it is inside the PPF, it is not efficient.

4.  

<table>
<thead>
<tr>
<th>Day</th>
<th>Meatballs</th>
<th>Scarves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martha</td>
<td>24 Meatballs</td>
<td>12 Scarves</td>
</tr>
<tr>
<td>Stewart</td>
<td>12 Meatballs</td>
<td>8 Scarves</td>
</tr>
</tbody>
</table>

\[ \Rightarrow \text{opportunity cost} \]

<table>
<thead>
<tr>
<th>Martha</th>
<th>1/2 Scarf</th>
<th>2 meatballs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stewart</td>
<td>2/3 Scarf</td>
<td>1 1/5 meatball</td>
</tr>
</tbody>
</table>

(1) Absolute advantage in knitting scarves = Martha  
comparative advantage in knitting scarves = Stewart.
(2) According to opportunity cost, we realize that Martha would specialize in making meatballs, and Stewart would specialize in knitting scarves.
  ⇒ Stewart will trade away scarves in exchange for meatballs.

(3) The trade price of scarf: 1.5 meatballs ~ 2 meatballs
    The trade price of meatball: ½ scarves ~ ¾ scarves.

5.
  (1) price of computer chips fall
    ⇒ Supply Curve shifts right.
  (2) University requires freshmen to have own PC
    ⇒ Demand curve shifts to right.

⇒ As a result, the change in price is ambiguous, and quantity definitely rises.
6. (1) price floor

(2)

(3) Chicken sandwich and hamburger are substitutes.