Suppose you managed a local Spiffy Lube service store. You decide to open your store each day at 10:00 a.m. but you have not decided how long the store should be open. An industry consultant has provided the following information about the total number of customers when a typical store is open.

<table>
<thead>
<tr>
<th>Hours Open</th>
<th>Total Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>5</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>7</td>
<td>62</td>
</tr>
<tr>
<td>8</td>
<td>62</td>
</tr>
</tbody>
</table>

A Spiffy Lube is the only product you offer at your store. Your store manager is paid a salary of $35,000 a year. He has no idea how to do a Spiffy Lube but he must be present whenever the store is open and his salary is the same no matter how many Spiffy Lubes are done.

The mechanic who does the Spiffy Lube is paid $50 per hour. She gets the $50 for each hour she works not for each Spiffy Lube she performs.

1. Construct the average product table.
2. Construct the marginal product table.
3. At what number of hours is average product maximized?
4. At what number of hours is marginal product maximized?
5. Construct the total variable cost table?
6. Construct the total cost table?
7. Construct the average variable cost table?
8. Construct the average total cost table?
9. Construct the marginal cost table?
10. At what level of output is average variable cost minimized?
11. How many hours must you operate the store to achieve this level of output?
12. At what level of output is average total cost minimized?
13. How many hours must you operate the store to achieve this level of output?
14. At what level of output is marginal cost minimized?
15. How many hours must you operate the store to achieve this level of output?
16. What is the design capacity of the store?
17. What is the minimum price you will charge for a Spiffy Lube?
18. What is the minimum number of hours you will to operate the store?
The consultant also tells you the maximum price you can charge in your perfectly competitive market area for a Spiffy Lube is $10.

19. What is the price you will charge for a Spiffy Lube?
20. How many hours will you open the store each day?
21. What is your short run profit each day?