Name: _____________________

Cosumnes River College
Principles of Microeconomics
Problem Set 3
Due February 12, 2015

Spring 2015

Prof. Dowell

Instructions: Write the answers clearly and concisely on these sheets in the spaces provided.

1. What shifts (left or right) in demand and supply curves would produce the following effects? (Assume in each case that only one of the two curves has shifted.)
   a. The price of smart phones has fallen over the past few years while the quantity exchanged has increased greatly.

   b. Summer sublets in Davis, California, are at rents well below the regular rentals.

   c. The gourmet coffee market grows as influence shoppers indulge.

2. What would be the effect on the equilibrium price and quantity of marijuana if its sale and consumption were legalized? Explain using a supply and demand model.

3. “In the corn market, demand often exceeds supply and supply often exceeds demand.” “The price of corn rises and falls in response to changes in supply and demand.” In which of these two statements are the terms “supply” and “demand” used correctly? Explain
4. “As the price of beef rises, the demand of consumers will begin to decline. Economists estimate that a 5 percent rise in beef prices will cause the demand to decline by 1 percent.” Indicate the two errors in this statement.

5. The table below presents data on the price of fuel oil, the quantity of it demanded, and the demand for insulation:

<table>
<thead>
<tr>
<th>Fuel Oil</th>
<th>Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price per Gallon (dollars)</td>
<td>Quantity Demanded (millions of gallons)</td>
</tr>
<tr>
<td>2.25</td>
<td>100</td>
</tr>
<tr>
<td>3.75</td>
<td>90</td>
</tr>
<tr>
<td>5.25</td>
<td>60</td>
</tr>
</tbody>
</table>

a. Calculate the arc price elasticity of demand for fuel oil as it price increases from $2.25 to $3.75 per gallon and from $3.75 to $5.25 per gallon.

b. Are fuel oil and insulation substitutes or complements? How can you tell from the figures in the table alone?

6. What are the major determinants of a product’s price elasticity of demand? Studies indicate that the demands for Florida oranges, Bayer aspirin, water melons, and airfares to Europe are elastic. Why?
7. Sue loves ice cream but cannot stand frozen yogurt deserts. In contrast, Carole cannot tell the
difference between ice cream and frozen yogurt deserts. Who will have the more elastic
demand for frozen yogurt? Explain.

8. Given that a price change remains in effect over a period of time, will price elasticity of
demand increase or decrease over time? Why?

9. The following table shows the demand curve for denim jeans:

<table>
<thead>
<tr>
<th>Price Per Unit</th>
<th>Quantity Demanded Per Year</th>
<th>Total Expenditure (Revenue)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30</td>
<td>400,000</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>380,000</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>350,000</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>320,000</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>300,000</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>260,000</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>230,000</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>190,000</td>
<td></td>
</tr>
</tbody>
</table>

a. Complete the last table of the above table to show the total expenditure or revenue for
each given price.

b. Over what range of prices is demand for denim jeans elastic? Over what range is it
inelastic? Answer without calculation of the elasticity. Explain your answer.
10. Match the following words with the appropriate statement about elasticity:
   a. Luxury____  1. Cross price elasticity of demand is negative.
   b. Complement____  2. Income elasticity of demand is negative.
   c. Necessity____  3. Income elasticity of demand is greater than one.
   d. Substitute____  4. Income elasticity of demand is less than one.
   e. Inferior good____  5. Income elasticity of demand is positive.
   f. Normal good____  6. Cross-price elasticity of demand is positive.

11. Kean University Professor Henry Saffer and Bentley University Professor Dave Dhaval estimated that if the alcohol industry increased the price of alcoholic beverages by 100 percent, underage drinking would fall by 28 percent and underage binge drinking would fall by 51 percent.
   a. What is the price elasticity of demand for underage drinking and for underage binge drinking?
   b. What might explain the difference in elasticities?

12. A newspaper recently lowered its price from 50 cents to 30 cents. As it did, the number of newspapers sold increased from 240,000 to 280,000.
   a. What was the newspaper's price elasticity of demand?
   b. Given the elasticity, did it make sense for the newspaper to lower its price? Explain.
   c. How might your answer to part b change if much of the publisher’s revenue came from advertising and the higher the circulation, the more it could charge for advertising?