Use the following table to answer questions 1-8.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity Demanded</th>
<th>Quantity Supplied</th>
<th>New Supply Curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100</td>
<td>70</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>$200</td>
<td>60</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>$300</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>$400</td>
<td>40</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>$500</td>
<td>30</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>$600</td>
<td>20</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

1. What is the equilibrium price for bicycles in Boulder?

2. What is the equilibrium quantity of bicycles?

3. At a price of $100, is there a shortage or a surplus of bicycles? How large?

4. At a price of $400, is there a shortage or a surplus of bicycles? How large? Will the price rise or fall as a result of this?

5. Using the information in the table above, plot both the demand and supply curve for bicycles. (hint: be careful with your scale and be sure to label the graph’s axes).

6. The labor union that produces bicycles negotiates a new contract. As a result, the quantity supplied falls by 20 units at each price of bicycles. Using this information, fill in the numbers in the supply schedule table on the previous page.
7. Plot the new supply curve on the same graph that you plotted the original demand and supply curve.

8. The new supply curve represents a shift IN / OUT in the supply curve.

9. Each of the events listed below has an impact on the market for bicycles. For each event, list which curve is affected (supply or demand), what direction is it shifted, and what is the resulting impact on the equilibrium price and quantity of bicycles.

a. An increase in the price of automobiles.

   (i) are these goods substitutes, complements, or unrelated?

   (ii) which curve is affected?

   (iii) which direction does the curve shift?

   (draw this, label your graph)

   (iv) what happens to the equilibrium price?

   (v) what happens to the equilibrium quantity?

b. A decrease in income if bicycles are a normal good?

   (i) which curve is affected?

   (ii) which direction does the curve shift?

   (iii) what happens to the equilibrium price?

   (iv) what happens to the equilibrium quantity?

   c. An increase in the price of steel, which is used to make bicycle frames?
(i) which curve is affected?

(ii) which direction does the curve shift?

(iii) what happens to the equilibrium price?

(iv) what happens to the equilibrium quantity?

And, now, some multiple choice practice questions.

10. If an increase in the price of blue jeans leads to an increase in the demand for tennis shoes, then blue jeans and tennis shoes are:
   a. substitutes.
   b. complements.
   c. normal goods.
   d. inferior goods.
   e. none of the above.

11. All of the following shift the supply of watches to the right except
   a. an increase in the price of watches.
   b. an advance in technology used to manufacture watches.
   c. a decrease in the wage of workers employed to manufacture watches.
   d. manufacturers’ expectation of lower watch prices in the future.
   e. all of the above cause an increase in the supply of watches.

12. A decrease (leftward shift) in the supply for a good, ceteris paribus, will tend to cause
   a. an increase in the equilibrium price and quantity.
   b. a decrease in the equilibrium price and quantity.
   c. an increase in equilibrium price and a decrease in equilibrium quantity.
   d. a decrease in the equilibrium price and an increase in equilibrium quantity.
   e. none of the above.

13. Suppose a frost destroys much of the Florida orange crop. At the same time, the American Heart Association announces that drinking orange juice is good for us. What would we expect to happen to the equilibrium price and quantity in the market for orange juice.
   a. Price will increase, quantity is ambiguous.
   b. Price will increase, quantity will increase
   c. Price will increase, quantity will decrease
   d. Price will decrease, quantity is ambiguous
   e. The impact on both price and quantity is ambiguous.

14. You are driving down 28th Street when you notice that the price of gasoline is higher this week than last week. Thinking about your Economics class, you realize that many things could have caused this. List several events that could have caused this:
In class, I tell you that the amount of gasoline being sold (quantity) is lower now than last week. This narrows down some of the events listed above. List some possible events that could cause both a higher equilibrium price AND lower equilibrium quantity.

15. Fill in the spaces in the table below. This exercise helps you understand how to calculate the price elasticity of demand, and also illustrates how total revenue is related to elasticity. Use the midpoint method when doing elasticity calculations.

<table>
<thead>
<tr>
<th>Price</th>
<th>Qty demanded</th>
<th>Total Revenue</th>
<th>% Change in Price</th>
<th>% Change in Quantity</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$40</td>
<td>20</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>$60</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>$80</td>
<td>12</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>$100</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>$120</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Using the information that you calculated in the above table, over what range of prices is the demand for motel rooms elastic?

17. In order to maximize total revenue, should the supplier of this good raise or lower the price within the range where the demand is elastic?

18. If a small percentage increase in the price of a good greatly reduces the quantity demanded of that good, the demand for that good is a. price inelastic.
b. price elastic.
c. unit price elastic.
d. income inelastic.
e. income elastic.

19. Which of the following would cause a demand curve for a good to be price inelastic?
   a. a great number of substitutes for the good.
   b. the good is inferior.
   c. the good is a luxury.
   d. the good is a necessity.

20. The demand for which of the following is likely to be the most price inelastic?
   a. airline tickets.
   b. bus tickets.
   c. taxi rides.
   d. transportation.

21. If the cross-price elasticity between two goods is negative, the two goods are likely to be
   a. luxuries.
   b. necessities.
   c. complements.
   d. substitutes.

22. If consumers always spend 15% of their income on food, then the income elasticity of
   demand for food is
   a. 0.15.
   b. 1.00.
   c. 1.15.
   d. 1.50.
   e. none of the above.

23. Technological improvements in agriculture that shift the supply of agricultural commodities
   to the right tend to
   a. reduce total revenue to farmers as a whole because the demand for food is inelastic.
   b. reduce total revenue to farmers as a whole because the demand for food is elastic.
   c. increase total revenue to farmers as a whole because the demand for food is inelastic.
   d. increase total revenue to farmers as a whole because the demand for food is elastic.

24. A decrease in supply (shift to the left) will increase total revenues in that market if
   a. supply is price elastic.
   b. supply is price inelastic.
   c. demand is price elastic.
   d. demand is price inelastic.