1. Assume the government decides to increase excise taxes on cigarettes, partly to increase revenues and partly to reduce cigarette consumption. If the price elasticity of demand for cigarettes is $E_d = 0.2$, by how much would the price of cigarettes have to increase in order to generate a 10% decrease in the quantity of cigarettes demanded?

A. 5%
B. 10%
C. 20%
D.* 50%

2. Which of the following statements about price elasticity of demand is false?

*A. If there is an increase in a tax on the sellers of a product, the quantity demanded will not change if price elasticity of demand is 1.

B. The longer the time period considered, the higher the price elasticity of demand.

C. The price elasticity of demand for soda is likely to be smaller than the price elasticity demand for a particular brand of soda.

D. Goods that comprise a very small percentage of a household’s total expenditures tend to have a relatively low price elasticity of demand.

3. If a price increase, caused by higher production costs, leads to no change in quantity sold, we can conclude

A. demand is perfectly elastic.
B.* demand is perfectly inelastic.
C. demand is unitary elastic.
D. None of the above are true

4. Ceteris paribus, an excise tax will have the largest burden on the consumer (in terms of higher prices) if a tax is placed on which of the following products?

A. food
B. meat
C. chicken
D. steak

5. Suppose the government decides to enforce a minimum support price for milk at $2.00/gallon when the market equilibrium price is $1.70/gallon. Government officials pledge in the event of a surplus of milk they will purchase the surplus. Economic theory predicts that government purchases will be larger:

A. the higher the elasticity of supply and the lower the elasticity of demand for milk.
B. the lower the elasticity of supply and the higher the elasticity of demand for milk.
C.* the higher the elasticity of supply and the higher the elasticity of demand for milk.
D. the lower the elasticity of supply and the lower the elasticity of demand for milk.
6. Suppose government officials impose an additional excise tax on cigarettes. All other things equal, which of the following statements is TRUE?

I. The annual tax revenue generated by this tax will tend to decrease in future years.
II. The excise tax will immediately decrease the demand for cigarettes and decrease the supply of cigarettes.

A.* I only
B. II only
C. Both I and II are true.
D. Neither I nor II is true.

7. Suppose as part of a new health care reform plan, President Obama is considering the imposition of binding price ceilings on prescription drugs. Assuming that both the demand and supply of drugs are highly inelastic, this policy will likely cause

A. A relatively large shortage in the market for prescription drugs.
B.* A relatively small shortage in the market for prescription drugs.
C. A relatively large surplus in the market for prescription drugs.
D. A relatively small surplus in the market for prescription drugs.

8. Ceteris paribus, government revenues from an excise tax will

A. be greater if demand is highly inelastic.
B. be greater if supply is highly inelastic.
*C. both of the above are true.
D. neither of the above are true.

9. Suppose the government wants to increase overall tax revenues by means of a per-unit excise tax on sellers of a particular commodity. Ceteris paribus, which of the following demand and supply curve combinations would best meet this goal?

A.* relatively inelastic supply and relatively inelastic demand
B. relatively elastic supply and relatively elastic demand
C. relatively elastic demand and relatively inelastic supply
D. relatively inelastic demand and relatively elastic supply

10. Which of the following statements regarding the expected effects of a price control in a competitive market is FALSE?

A. A price floor above the equilibrium price will generate a surplus.
B.* A price ceiling below the equilibrium price will generate a quantity exchanged that is greater than the equilibrium quantity.
C. A price ceiling below the equilibrium price will generate a shortage.
D. A price floor above the equilibrium price will generate a quantity exchanged that is less than the equilibrium quantity.
11. If MU is zero,
   A. total utility is decreasing.
   B. total utility is increasing.
   C. total utility could be increasing or decreasing.
   D.* total utility is not changing.

12. If the marginal utility of good X is 4 times the marginal utility of good Y, and the consumer is maximizing utility, we know that
   A.* the price of X must be 4 times the price of Y.
   B. the TU from X must be 1/4 that of Y.
   C. the price of X must be 1/4 the price of Y.
   D. the TU from X must be 4 times that of Y.

13. An indifference curves show combinations of goods available to the consumer that
   A.* yield the same total utility.
   B. yield the same marginal utility.
   C. result in the highest level of utility.
   D. result in the same consumer expenditures.

14. Which of the following statements about the short-run is false?
   A. The marginal product of labor may increase or decrease.
   B. Average fixed costs decrease as output increases.
   C. Total fixed costs are the same regardless of output.
   D.* Marginal costs must fall if ATC falls.

15. If marginal product is declining then we can infer
   A. average product is declining.
   B.* marginal costs are increasing.
   C. total costs are increasing at a decreasing rate.
   D. All of the above must be true.

16. The law of diminishing returns implies
   A. marginal product is always diminishing.
   B.* marginal product of a variable input must eventually decline.
   C. marginal product of a fixed input must eventually decline.
   D. total product must eventually decline.
17. If marginal costs are constant and equal to $20, we can conclude that

A. marginal product is constant.
B. total variable costs are increasing at a constant rate per unit of output.
C. total variables costs equal $200 at Q = 10.
D.* All of the above are correct conclusions.

18. Assume at Q = 100, the MC of the 100th unit is $200, ATC = $10, and AVC = $7. Using this information, at Q = 99

A. total costs equal $20,000, of which fixed costs equal $1,000.
B. total costs equal $9,900, of which fixed costs equal $3,000.
C.* total costs equal $800, of which fixed costs equal $300.
D. total costs equal $1,700, of which fixed costs equal $100.

19. Long run average costs are assume to increase at some level of output due to

A. declining marginal product of variables inputs.
B. higher elasticity of supply of variables inputs.
C.* diseconomies of scale.
D. All of the above reasons

USE THE TABLE BELOW TO ANSWER THE NEXT QUESTION.

<table>
<thead>
<tr>
<th>Q</th>
<th>$MC</th>
<th>$FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

20. At 3 units of output, TC is equal to

A. $6.00.
*B. $18.00.
C. $26.00.
D. $30.00.
II. Short Essay - Be precise, complete, and neat in your answers. Use only the space allowed.

1. (6 Points) Assume there are many sellers of “snow cones” and the supply of “snow cones” is perfectly inelastic on a hot summer day in Bloomington. Further assume the equilibrium price is $5 and the Bloomington mayor places a $1 excise tax on the sell of snow cones.

Show graphically how the tax would impact the market equilibrium for snow cones. No discussion needed.

![Graph showing supply and demand with tax effect]

2. (4 points each) True/False - briefly support your answer.

A. Ceteris paribus, the elasticity of supply of word processing services is low if the elasticity of supply of individuals with word processing skills is high.

\[ \text{False} \rightarrow E_s \text{ is low (ceteris paribus) if } E_{\text{WP skills}} \text{ is low} \]

B. Ceteris paribus, the elasticity of demand for milk is lower for low income families.

\[ \text{False} \rightarrow \text{expenditure on milk is greater proportion of budget for low income with } \Delta q_m \text{ high elasticity of } q_m \]

C. If supply were perfectly elastic for good A, a subsidy paid to buyers of good A would have no impact on the market equilibrium for good A.

\[ \text{False} \rightarrow \triangle Q_E \]

\[ Q_1, Q_2, Q_3 \]
3. (8 points) Using a well-drawn, fully labeled graph, show the following depiction of a consumer's commodity choices using appropriate budget lines and indifference curves.

Jack has $100 to spend. The price of A = $10, and the price of B = $10. Jack consumes 5 units of B. Following a price decrease of A to $5, Jack still consumes 5 units of B.

With A on the horizontal axis, “decompose” Jack's buying decisions regarding A. Explicitly label both the substitution effect and the income effect that follows from your graph.

4. (10 points) Suppose the current equilibrium for imported sugar is $5 per bag and equilibrium quantity is 100 million bags per year. In graph 1, show the effect on the imported sugar market of an import quota equal to 75 million bags. In graph 2, show the impact on the cookie market (which uses sugar as an input). In both graphs, use arrows to show the movement from one equilibrium to another. No discussion necessary.

   **Graph 1**

   **Graph 2**

5. (4 Points) Assuming the price of labor is $12 per unit, complete the following table.

<table>
<thead>
<tr>
<th>Q_L</th>
<th>MP_L</th>
<th>Total Output</th>
<th>MC_{output}</th>
<th>TVC_{output}</th>
<th>AVC_{output}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>$6</td>
<td>$12</td>
<td>$6</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
<td>$12</td>
<td>$24</td>
<td>$8</td>
</tr>
</tbody>
</table>