(2 pts) 1. Given the following diagram, what is the own-price elasticity of supply between points A and B? Show all work!

\[ \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = \frac{20}{4} \times \frac{10}{80} = \frac{260}{360} = \frac{5}{9} = .55 \]

Given the following diagram associated with cost curves for a perfectly competitive firm, answer questions 2 through 6.

(1 pt) 2. In order for this firm to produce any output, the minimum output price must be at least \$ 12 per unit.

(1 pt) 3. In order for this firm to break even, it must produce 300 units.

(3 pts) 4. Suppose that the firm receives $25 per unit of output. Assume that the firm operates in a perfectly competitive economic environment.

(a) The total revenue received by this firm is $3,750.

(b) The total cost incurred by this firm is $5,700.

(c) The maximum profit this firm can expect to receive is $3,150.
5. If the firm produces 250 units, total fixed costs are: (Please circle the correct answer.)
   (a) $1,000.
   (b) $3,000.
   (c) $4,000.
   (d) can't tell; insufficient information

6. TRUE or FALSE. (Circle the correct answer.) The firm will incur a loss if the price per unit of output sold is $13.

7. Consider the following table pertaining to wheat production on a particular farm in Kansas. Assume conditions of perfect competition and that the price of wheat is $4/bushel.

<table>
<thead>
<tr>
<th>Labor (Hours)</th>
<th>Wheat Production (Bushels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>80</td>
</tr>
<tr>
<td>15</td>
<td>95</td>
</tr>
</tbody>
</table>

   What is the marginal value product of labor? Show all work.

   \[ MVP = P \times MPP \]
   \[ MPP = \frac{\Delta \text{Wheat Production}}{\Delta \text{Labor}} \]
   \[ \frac{15}{5} = 3 \text{ b/hr} \]
   \[ MVP = (4/\text{bu})(3 \text{ bu/hr}) = 12/\text{hr} \]
   \[ \text{Note that} \quad MVP = \frac{\Delta \text{W}}{\Delta \text{Labor}} \]

8. Due to the North American Free Trade Agreement (NAFTA) the U.S. government is considering use of new pesticide for tomato production. These new pesticides will raise the marginal costs of tomato production by 10%. If this proposed legislation were to become law, what would likely happen in the short run to the price and quantity of tomatoes produced? Please circle the correct answer.

   (a) The price of tomatoes would fall and the quantity of tomatoes produced would fall.
   (b) The price of tomatoes would fall and the quantity of tomatoes produced would rise.
   (c) The price of tomatoes would rise and the quantity of tomatoes produced would rise.
   (d) The price of tomatoes would rise and the quantity of tomatoes produced would fall.

9. BAC-21 is a dangerous strain of bacteria extremely harmful to humans. An outbreak of this potentially deadly strain occurs in Florida, particularly affecting the shrimp industry. Given this information, it is likely that: (Please circle the correct answer.)

   (a) the price of shrimp would fall and the quantity of shrimp produced would fall
   (b) the price of shrimp would fall but the quantity of shrimp produced would rise
   (c) the price of shrimp would rise and the quantity of shrimp produced would rise
   (d) the price of shrimp would rise but the quantity of shrimp produced would fall
(3 pts) 10. Consider the following diagram.

(a) The magnitude of the producer surplus is \( \frac{30}{\text{million}} \) million.

(b) The magnitude of the consumer surplus is \( \frac{15}{\text{million}} \) million.

(c) The magnitude of the total economic surplus is \( \frac{45}{\text{million}} \) million.

(4 pts) 11. The following diagram represents a leftward shift in the supply of tomatoes. Fill in the blanks.

(a) Identify the producer surplus before the leftward shift in supply. \( \frac{2 + 4}{2 + 5} \)

(b) Identify the producer surplus after the leftward shift in supply. \( \frac{5 - 4}{\text{ }} \)

(c) Calculate the change in producer surplus. \( \frac{5 - 4}{\text{ }} \)

(d) True or False: Producers are better off with the leftward shift in the supply of tomatoes. Circle the correct answer.

(2 pts) 12. Using the graph in question 11, which of the following is likely to be the cause for a leftward shift in the supply of tomatoes? Circle ALL that apply.

(a) the use of biotechnology, which lowers the marginal costs of production 10 percent.

(b) a successful promotion/advertising campaign for tomatoes

(c) the use of new pesticides for tomato production, which raises the marginal costs of production 5 percent

(d) a freeze in the Rio Grande Valley where most tomatoes are produced
13. Consider the following diagram. Circle all TRUE statements.

(a) The market clearing price is $2.
(b) The market clearing quantity is 1500 units.
(c) A surplus of 700 units exists when P = $1.60.
(d) When P = $1.60, the market is said to be in disequilibrium.

14. The change in total cost due to a change is the level of input usage is known as

\[ \text{marginal input cost (MFC)} \text{ or marginal factor cost (MFC)} \]

"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this announced quiz."

_________________________  _________________________
Student's Signature        Date

_________________________  _________________________
Student's Printed Name     UIN