

Please write your answers neatly and legibly.

1. Consider the market for bicycles in Zeeland, a small, closed economy. The market for bicycles in Zeeland can be described by the following demand and supply curves where P is the price per bicycle and Q is the quantity of bicycles:

Domestic Demand for Bicycles: $P = 500 - 5Q$

Domestic Supply of Bicycles: $P = 100 + 15Q$

- a. (1 point) Determine the equilibrium price and quantity for bicycles in Zeeland given the above information. Show your work for full credit and put your answers in the provided spaces.

Equilibrium Price = _____

Equilibrium Quantity = _____

- b. (1 point) Calculate the value of consumer surplus (CS) and producer surplus (PS) in the closed market for bicycles in Zeeland. Show your work for full credit and make sure you provide units of measurement in your answer. Put your answers in the provided spaces.

Consumer Surplus = CS = _____

Producer Surplus = PS = _____

c. (4 points) Suppose that the world price of bicycles is \$220. Holding everything else constant, if Zeeland opens the bicycle market to trade, what do you predict will happen to the following? Your answers should be "increase", "decrease", "remains constant", or "cannot be predicted". Provide a well-labeled graph to illustrate your answer: the graph should be completely and thoroughly labeled! Provide your responses in the spaces provided and then draw your graph in the adjacent space. There is NO NEED TO CALCULATE THE NUMERIC VALUES OF CS, PS, AND TS. Do provide a numeric value for imports.

CS with trade _____
 PS with trade _____
 Imports _____
 Total surplus with trade _____

d. (3 points) Suppose that this market is open to trade with the world price of bicycles being \$220. If the government of Zeeland imposes a tariff of \$90 per bike, what will be the impact on the following? Compute numeric values for all answers. Show your work for full credit and put your final answers in the provided spaces.

Consumer Surplus with the tariff = _____
 Producer Surplus with the tariff = _____
 Government Tariff Revenue = _____
 Deadweight Loss from the tariff = _____
 Deadweight Loss due to using a less efficient producer to produce the good once the tariff is introduced = _____
 Deadweight Loss due to pushing consumers away from the level of consumption they wish to have = _____

d. (1 point) Suppose that government officials in Zeeland would prefer to implement an import quota rather than a tariff in the market for bicycles. If the intent of the policy is to have an import quota that results in exactly the same outcome as the tariff, what price must the government get the licensed importers to pay per bicycle to the government for the license to import the good? Explain your reasoning.