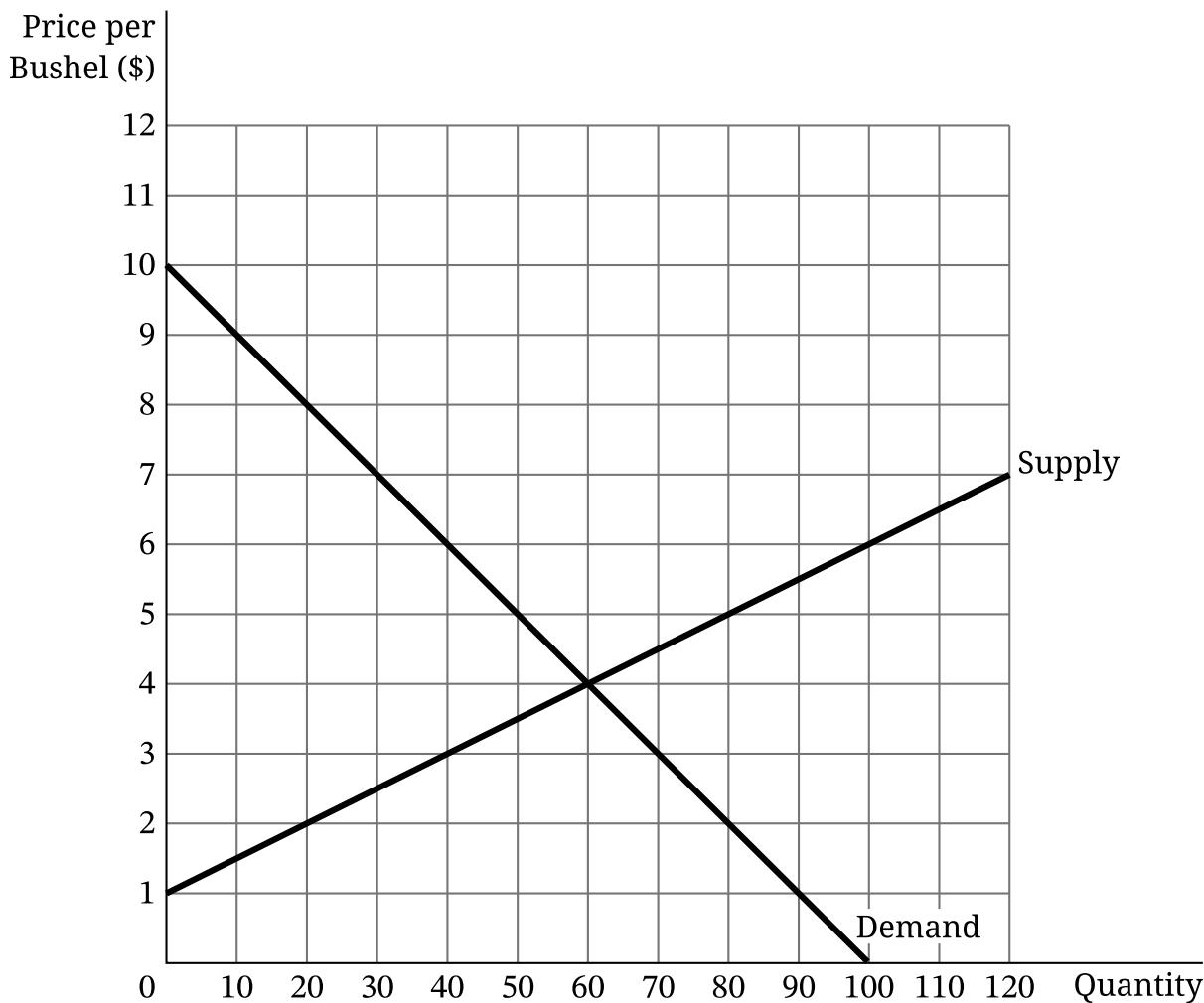


2. The graph provided shows the market for rice in the country of Rushland.



- A. Calculate the total economic surplus at market equilibrium. Show your work.
- B. If the government sets a price floor at \$3 per bushel, will there be a surplus, a shortage, or neither? Explain.
- C. Suppose that instead of the price floor, Rushland engages in international trade and the world price of rice is \$5 per bushel.
- Will Rushland export or import rice? Explain using numbers from the graph.
 - Calculate the domestic consumer surplus when Rushland engages in international trade. Show your work.
 - Calculate the total revenue that Rushland's farmers will earn at the world price. Show your work.

3. Tony's Trinkets and Bitaly's Bracelets are the only two firms in a town that produce and sell jewelry. Tony's Trinkets is deciding whether to produce Unique jewelry or Typical jewelry. Bitaly's Bracelets is deciding whether to produce Gold jewelry or Silver jewelry. The payoff matrix shows the payoffs for each combination of strategies. The first entry in each cell shows Tony's Trinkets' profit, and the second entry shows Bitaly's Bracelets' profit. Each firm independently and simultaneously chooses its strategy. Assume that the two firms know all the information in the matrix and do not cooperate.

		Bitaly's Bracelets	
		Gold	Silver
Tony's Trinkets	Unique	\$15, \$21	\$20, \$19
	Typical	\$10, \$7	\$21, \$16

- A. Suppose Bitaly's Bracelets chooses to produce Silver jewelry. Is choosing to produce Unique jewelry the best choice for Tony's Trinkets? Explain using numbers from the payoff matrix.
- B. Is Bitaly's Bracelets' dominant strategy to produce Gold jewelry, to produce Silver jewelry, or does it not have a dominant strategy? Explain using numbers from the payoff matrix.
- C. Identify all Nash equilibria for this game.
- D. Suppose Tony's Trinkets' profit from producing Typical jewelry increases regardless of what Bitaly's Bracelets does. What is the minimum amount by which Tony's Trinkets' profit must increase in order for Typical jewelry to become a dominant strategy: \$2, \$4, \$6, \$11, or \$15?
- E. Suppose instead that these two firms now cooperate and merge into one firm to maximize their combined profits. The new firm will have two locations and continue to face the same actions and payoffs. Calculate the new firm's maximum combined profit. Show your work.

STOP
END OF EXAM

Question 2: Short**5 points**

- A** Calculate the total economic surplus as \$270 and show your work. **1 point**

Point 1 Total Economic Surplus = $\frac{1}{2} \times (\$10 - \$1) \times (60 - 0) = \frac{1}{2} \times \$9 \times 60 = \$270$

OR

$$\begin{aligned}\text{Total Economic Surplus} &= \text{Consumer Surplus} + \text{Producer Surplus} \\ &= \frac{1}{2} \times (\$10 - \$4) \times (60 - 0) + \frac{1}{2} \times (\$4 - \$1) \times (60 - 0) \\ &= \$180 + \$90 = \$270\end{aligned}$$

- B** State that there will be neither a surplus nor a shortage and explain that a price floor **1 point**

Point 2 set below the equilibrium price is not binding and, therefore, will have no effect on the market price and quantity.

- C (i)** State that Rushland will export rice and explain with **ONE** of the following: **1 point**

- Point 3
- At the world price of \$5, the domestic quantity supplied is 80 bushels of rice, which is greater than the domestic quantity demanded, which is 50 bushels of rice.
 - At the world price of \$5, Rushland has a domestic surplus of 30 bushels of rice that can be exported.

- (ii)** Calculate the domestic consumer surplus in Rushland as \$125 and show your work. **1 point**

Point 4 Domestic Consumer Surplus = $\frac{1}{2} \times (\$10 - \$5) \times (50 - 0) = \frac{1}{2} \times \$5 \times 50 = \$125$

- (iii)** Calculate the total revenue Rushland's farmers will earn as \$400 and show your work. **1 point**

Point 5 Total Revenue = World Price × Quantity Sold = $\$5 \times 80 = \400