Price per Bushel ($) vs. Bushels of Corn

3. The diagram above shows the market for corn in the country of Microland. Corn is produced and sold in a constant-cost, perfectly competitive market.

(a) Calculate the total revenue earned by corn farmers at the market equilibrium price. Show your work.

(b) In an attempt to assist corn farmers in Microland, the government sets a $7 price floor on corn.

(i) How many bushels of corn will be exchanged at the price floor?
(ii) Calculate the deadweight loss associated with the price floor. Show your work.
(iii) Assume the government agrees to buy the unsold quantity at $7. Calculate the producer surplus. Show your work.
(iv) Assume the price floor and the government buying program remain in effect. In addition, assume the demand for corn does not change. In the long run, will the quantity of corn purchased by the government increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

GO ON TO THE NEXT PAGE.

Question 3: Short   5 points

(a)	Calculate the total revenue at the market price as $250 and show your work.	**1 point**

Total Revenue = (P × Q) = ($5 × 50) = $250

(b) (i)	State that the quantity exchanged at the price floor will be 30 bushels.	**1 point**
(ii)	Calculate the deadweight loss as $40 and show your work.	**1 point**

$$\text{Deadweight loss} = \frac{(\$7-\$3)\times(50-30)}{2} = \frac{\$80}{2} = \$40$$

(iii)	Calculate the producer surplus as $245 and show your work.	**1 point**

$$\text{Producer surplus} = \frac{(\$7-\$0)\times(70-0)}{2} = \frac{\$490}{2} = \$245$$

(iv)	State that the quantity of corn purchased by the government will increase and explain that this happens because the price floor leads to short-run economic profits for typical firms, which incentivize new firms to enter the market, leading to an increase in the market supply of corn and/or because the market supply becomes more elastic in the long run.	**1 point**

Total for part (b)	**4 points**

Total for question 3	**5 points**