

AGBE 321, Fall 2015

Quiz 3, Grading Rubric

Task	Points
<i>Question 1</i>	
Two separate graphs are drawn; retail level and farm level	1
Correct labels, retail level: $P$ on vertical axis; $Q$ on horizontal axis; Initial equilibrium quantity, $Q_0$ ; Initial equilibrium prices, $P_0$ (for each good)	1
Correct labels, farm level: $P$ on vertical axis; $Q$ on horizontal axis; Initial equilibrium quantity, $Q_0$ ; Initial equilibrium price, $P_0$	1
Derived demand curve intersects horizontal axis at the point where the retail demand curve intersects the supply curve for marketing and processing	3
Equilibrium quantity is determined by the intersection of the farm-level fed cattle demand and supply curves	2
The initial farm-level price is correctly identified and labeled	1
The initial equilibrium quantity in the farm level is used to determine prices in the retail level	1
A shift down of the demand for processed meat is indicated	2
A resulting shift down of the overall retail demand curve is indicated in the retail market	2
A resulting shift down of the overall retail demand curve is indicated in the farm market	1
A new derived demand curve is established such that it intersects the horizontal axis at the point where the new retail demand and old supply curve for processing and marketing intersect	1
A new farm level equilibrium price and quantity are labeled at the intersection of the new derived demand curve and the old farm level supply curve	1
The new quantity is used to establish new prices in the retail market and these prices are labeled	1
Correctly identified changes: lower $Q^*$ , lower $P_{FC}^*$ , lower $P_{\text{processed}}^*$ , higher $P_{\text{lesser}}^*$ and $P_{\text{premium}}^*$	2
<i>Question 2</i>	
Converted the $Q_{\text{lesser}}$ demand to the inverse demand, $P_{\text{lesser}} = 200 - 2Q$	3
Individual demands are summed to compute the retail demand, $P_R = 750 - 3.05Q$	5
Correctly calculated derived demand: $P_{FC}^D = 1000 - 43.05Q$	7
Correctly converted farm level supply into inverse supply: $P_{FC}^S = 100 + 2Q$	/ 3
Set $P_{FC}^D = P_{FC}^S$	/ 2
Correctly solved for equilibrium farm level quantity, $Q_{FC} = 19.98$	/ 3

Task	Points
Correctly solved for equilibrium farm level price, $P_{FC} = 139.96$	/ 3
Correctly solved for the equilibrium retail level prices, $P_{\text{processed}} = 134.02$ , $P_{\text{lesser}} = 160.04$ , $P_{\text{premium}} = 395.01$	4
<i>Question 3</i>	
Converted the $P_{\text{processed}}$ inverse demand to the demand, $Q_{\text{processed}} = 187.1.25P$	5
Determined that $Q_{\text{processed}}^{\text{new}} = 0.75 \times Q_{\text{processed}}^{\text{old}} = 140.63 - 0.94P$	7
Converted the $Q_{\text{processed}}$ demand back to the inverse demand, $P_{\text{processed}} = 150 - 1.06Q$	3
Converted the $Q_{\text{lesser}}$ demand to the inverse demand, $P_{\text{lesser}} = 200 - 2Q$	1
Individual demands are summed to compute the retail demand, $P_R = 750 - 3.31Q$	2
Correctly calculated derived demand: $P_{FC}^D = 1000 - 43.31Q$	2
Correctly converted farm level supply into inverse supply: $P_{FC}^S = 100 + 2Q$	/ 2
Set $P_{FC}^D = P_{FC}^S$	/ 1
Correctly solved for equilibrium farm level quantity, $Q_{FC} = 19.86$	/ 2
Correctly solved for equilibrium farm level price, $P_{FC} = 139.72$	/ 2
Correctly solved for the equilibrium retail level prices, $P_{\text{processed}} = 128.95$ , $P_{\text{lesser}} = 160.28$ , $P_{\text{premium}} = 395.01$	3
<i>Question 4</i>	
Correctly solved for the quantity supplied of fed cattle, $Q_{FC}^S = 20.5$	2
Correctly solved for the cross-price supply elasticity, $\varepsilon_{Q_{FC}, P_{Feeder}} = -0.48$	5
Correctly solved for the cross-price flexibility, $\phi_{P_{Feeder}, Q_{FC}} = 1/\varepsilon_{Q_{FC}, P_{Feeder}} = -2.08$	8
Correctly determined that for a 5% decrease in the $Q_{FC}^S$ there will be a 10.4% increase in the $P_{Feeder}$	5