

AGBE 321, Fall 2015

Quiz 1, Grading Rubric

Task	Points
<i>Question 1</i>	
Part (a)	
The response had fewer than 2 spelling/grammar mistakes	/ 1
The reasoning for a positive supply shift was clearly explained; for example, the supply shift was driven by improved milking technology.	/ 4
Part (b)	
Downward sloping demand curve / upward sloping supply curve	/ 1
Correct labels: P on vertical axis; Q on horizontal axis; Initial equilibrium quantity, Q_0 ; Initial equilibrium price, P_0	/ 2
Supply shift outward	/ 3
No change to demand curve	/ 2
Correct labels for new equilibrium price, P_1 , and new equilibrium quantity, Q_1	/ 2
Part (c)	
The response had fewer than 2 spelling/grammar mistakes	/ 1
The reasoning for a negative demand shift was clearly explained; for example, the demand shift was driven by the fact that robots are a substitute for labor	/ 4
Part (d)	
Downward sloping demand curve / upward sloping supply curve	/ 1
Correct labels: P on vertical axis; Q on horizontal axis; Initial equilibrium quantity, Q_0 ; Initial equilibrium price, P_0	/ 2
Demand shift inward	/ 3
No change to supply curve	/ 2
Correct labels for new equilibrium price, P_1 , and new equilibrium quantity, Q_1	/ 2
<i>Question 2</i>	
Input demand and supply functions correctly converted to inverse demand/supply form	/ 2
Milk inverse supply function is correctly calculated using the “old” labor function ($P_S = -3850 + 16.25Q$)	/ 3

Task	Points
Milk inverse supply function is set equal to the milk inverse demand function	/ 1
Equilibrium quantity is determined by solving for $Q^* = 238$	/ 2
Equilibrium price is determined by solving for $P^* = \$23$ using the determined equilibrium quantity, Q^*	/ 1
Milk inverse supply function is correctly calculated using the “new” labor function ($P_S = -3950 + 16.5Q$)	/ 3
Milk inverse supply function is set equal to the milk inverse demand function	/ 1
Equilibrium quantity is determined by solving for $Q^* = 240$	/ 2
Equilibrium price is determined by solving for $P^* = \$20$ using the determined equilibrium quantity, Q^*	/ 1
Calculated the percent change in quantity, $\% \Delta Q \approx 0.9\%$	/ 2
Calculated the percent change in price, $\% \Delta P \approx -18\%$	/ 2
<i>Question 3</i>	
Converted the inverse demand function into demand and calculated the new demand as: $Q_D^{new} = 0.85 \times Q_D^{old}$	/ 7
Converted the new demand into inverse demand, $P_D = 50 - 2.35Q$	/ 2
Input labor supply function correctly converted to inverse supply form	/ 2
Labor inverse supply function is set equal to the labor inverse demand function	/ 1
Equilibrium quantity is determined by solving for $Q^* = 15.8$	/ 2
Equilibrium price is determined by solving for $P^* = \$12.90$ using the determined equilibrium quantity, Q^*	/ 1
<i>Question 4</i>	
The response had fewer than 2 spelling/grammar mistakes	/ 2
The increase, decrease, or no change in the alfalfa hay market must be justified using economic terminology and, if a change in the market is noted, the connection between the robotic milking technology and the alfalfa hay market must be clearly identified.	/ 8