

enter, moving the demand to D_1 , quantity to Q_1 , the price to P_1 , and the average total costs to ATC_1 .

7) (20 points) Answer EITHER Part A OR Part B.

A) Suppose an industry has five firms. The largest firm has sales of \$200. The next two have sales of \$100 each, and the smallest two have sales of \$50 each. Find CR4, CR8, and HHI. Show all work. Should the smallest two be allowed to merge? Show all work and explain your logic.

B) Draw the ATC/AVC/MC/D diagram for a monopolistically competitive firm in the long-run equilibrium. Find the quantity produced and the price paid. Explain how you found the quantity produced, price paid, and how you know the company is in the long-run equilibrium.

Q	TC	ATC	MC
0			
2	200		
4		75	
6			75
	700		250

8) (20 points) Answer EITHER Part A OR Part B.

A) Copy the table to the right into your bluebook. Fill it in showing all work and explaining any entry which requires no calculation. Assume there are no fixed costs.

B) Suppose the total cost function for a firm is given by $TC = 100 + 4Q + 3Q^2$. Find the TVC, TFC, ATC, AVC, AFC, and MC. Show all work. If there is no work, then briefly explain what you did.

9) (22 points) Answer EITHER Part A OR Part B.

A) Suppose the income elasticity of demand for hats is +0.4. What does that tell you about hats?

Suppose the cross-price elasticity of bats and gloves is +1.4. What does that tell you about bats and gloves? Suppose that the own-price elasticity of demand for computers is -3.2. What does that tell you about computers? Explain your logic for all parts.

B) Use the table to the right to calculate TWO of the following elasticities. State how you chose the rows you used. Show all work and briefly state what that tells us about dogs. B1) income elasticity (E_I) of dogs using the point formula, B2) cross-price elasticity of dogs and cats (E_{xy}) using the arc formula, B3) own-price elasticity using the point formula.

P_{dog}	P_{cat}	Inc.	Q_{dog}
20	25	400	25
30	25	400	10
30	25	600	12
30	15	600	8

10) (24 points) Copy the payoff matrix into your text booklet. Find the Nash equilibrium (equilibria) for the following payoff matrix. BRIEFLY explain how you found it (them). Does either person have a dominant strategy? BRIEFLY explain your logic. Find both people's secure, a.k.a., safe, a.k.a., maximin strategy. BRIEFLY explain how you found them.

Question #6		Dick		
		High Quality	Medium Quality	Low Quality
Jane	High Quality	10, 14	8, 6	7, 13
	Medium Quality	11, 4	5, 8	14, 15

11) (24 points) Answer EITHER Part A OR Part B.

A) Suppose that Pepsi has the choice of building a new factory and Coke has a choice of charging a high price or a low price. Pepsi makes its choice first. Draw the decision tree and find the equilibrium. Explain how you found the equilibrium. The following table gives the payoffs. Strategies Payoffs.

(Build, High Price)	(20, 10)
(Build, Low Price)	(25, 15)
(Don't Build, High Price)	(30, 8)
(Don't Build, Low Price)	(13, 6)

B) Draw the ATC/AVC/AFC/MC diagram for a firm producing cars. Illustrate the effects of giving the accountants a pay raise. Explain why the curve(s) moved as drawn.

12) (30 points) Answer EITHER Part A OR Part B.

A) Draw an indifference curve/budget constraint diagram where the price of apples is twice the price of bananas. Explain how you know your graph shows that $P_A = 2P_B$. Illustrate the effects of an increase in the price of bananas so that $P_A = P_B$. Draw a third budget constraint which will be able to be used to find the income and substitution effects. State how you drew it. Given your diagram, are apples and bananas complements or substitutes? Explain your logic. Which points show the income effect? State how you reached that conclusion. Which points show the substitution effect? State how you reached that conclusion. Given your diagram, are either good inferior? State how you reached that conclusion.

B) Draw an isoquant/isocost diagram which has the price of labor twice the price of capital on two isocost lines. State how you know that $w = 2r$. Given your diagram, is the firm facing increasing, constant, or decreasing returns to scale? Show all work and briefly explain your logic. Given your diagram, what are the LRATC for the two quantities you chose? Show all work and briefly state what you did.

Regression Statistics						
Multiple R		0.513098				
R Square		0.26327				
Adjusted R Square		0.24808				
Standard Error		104.1101				
Observations		100				
Analysis of Variance						
	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>	
Regression	2	375707.8	187853.9	17.33144	3.67e-07	
Residual	97	1051374	10838.91			
Total	99	1427082				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Statistic</i>	<i>P-value</i>	<i>Lower 95.00</i>	<i>Upper 95.00</i>
Intercept	-124.500	113.616	-1.096	0.276	-350.048	100.944
Price	-1.250	0.728	-1.718	0.086	-2.705	0.184
Income	0.013	0.002	5.874	5.72e-08	0.008	0.017