

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because some students have a class after your class.

1) (12 points) Answer EITHER Part A OR Part B.

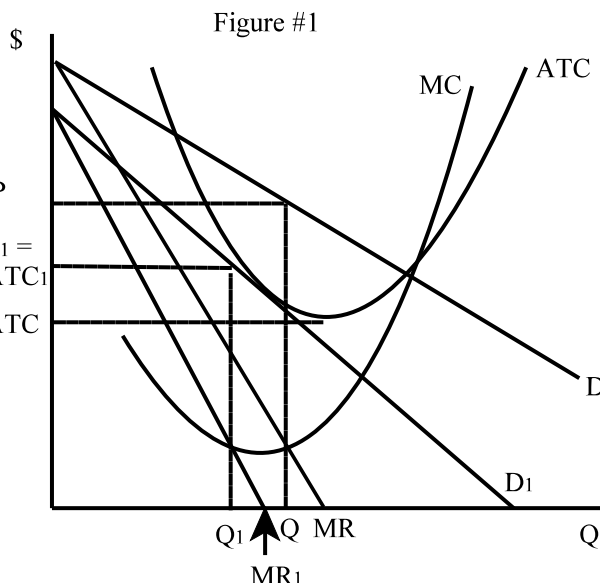
A) Suppose the demand for a product is $P = 10 - \frac{1}{2}Q$. Find the total revenue function and use that to prove the marginal revenue curve starts where the demand curve starts and is twice as steep.

B) We said that the marginal revenue curve for a straight-line demand curve starts where the demand curve starts, but is twice as steep as the demand curve. Explain both the economic reason for starting where the demand curve starts and the economic reason why it is twice as steep. A graph is unnecessary, but you may find it helpful.

2) (18 points) Answer EITHER Part A OR Part B.

A) Draw the straight-line TR/TC diagram for two firms who are producing the same quantity and are making the same profits but have different DOL. Explain how you know they have the same profit but different DOL. Explain why a large DOL can be both good and bad.

B) Suppose the firm has a fixed cost of \$400. Its goods sell for \$5 per unit and the marginal cost is \$3 per unit. Draw the TC/TR diagram which corresponds to this. What is the break-even point? Show all work. If the firm is producing 250 units, then calculate the DOL showing all work. If their sales were to increase 10%, then how much would their profits increase? Explain your answer.



3) (18 points) Figure #1 has at least five errors. Find THREE of them. Explain how you know they are wrong.

The diagram is supposed to be illustrating a monopolistically competitive firm making profits of the area between P and ATC from the axis to the quantity Q. Firms then enter, moving the demand to D_1 , quantity to Q_1 , the price to P_1 , and the average total costs to ATC_1 .

4) (20 points) Answer EITHER Part A OR Part B.

B) Draw the kinked demand curve. Explain why it takes that shape. Derive the marginal revenue curve. Explain how you derived it.

A) Calculate the CR4, C8, and CR10 using the table to the right.

Firm	A	B	C	D	E	F	G	H	I
Sales	150	150	150	150	300	300	300	600	900

Show all work. Calculate the

HHI showing all work. Suppose firms E & F decided they wanted to merge. Should they be allowed to merge? Explain your logic and show all calculations.

5) (32 points) Answer EITHER Part A OR Part B.

A) Draw the perfectly competitive industry short-run supply and demand diagram and beside it the AVC/ATC/MC/D diagram for a firm in the industry. Draw it so that the firm is losing money but staying in business. Explain how you know they are losing money but staying in business. Illustrate what happens in the long term. Explain why the curve(s) moved as drawn.

B) Suppose the industry demand curve is given by $P = 100 - 2Q_1$ and the firms' marginal cost curve is given by $MC_i = 4$. Draw the D/MC diagram to find the Cournot firms' best response functions. Plot the best response functions. Use that to find the equilibrium levels of output for the two firms and the industry price.