1. Economan has been infected by the free enterprise bug. He sets up a firm on extraterrestrial affairs. The rent of the building is $4,000, the cost of the two secretaries is $40,000, and the cost of electricity and gas comes to $5,000. There's a great demand for his information, and his total revenue amounts to $100,000. By working in the firm, though, Economan forfeits the $50,000 he could earn by working for the Friendly Space Agency and the $4,000 he could have earned as interest had he saved his funds instead of putting them in his business.

   a. What is his profit or loss by an accountant's definition?

   b. What is his profit or loss by an economist's definition?

What is his profit or loss by an accountant's definition?

Answer: Accounting profit or loss is solely determined by the explicit costs and revenues. His explicit costs come to $4,000 + $40,000 + $5,000 = 49,000$ and his explicit revenue comes to $100,000. Therefore, his accounting profit is $100,000 − $49,000 = $51,000.

What is his profit or loss by an economist's definition?

Answer: An economist adds in implicit cost and implicit revenue to the accountant's calculations. There is no implicit revenue here, but the implicit cost is $50,000 + $4,000 = $54,000$. Thus, his explicit and implicit cost combined is $103,000, while his revenue is only $100,000. Thus, by an economist's definition, Economan is making a loss of $3,000.

Here is a diagram where demand, MC, and ATC all intersect at one point. Use the diagram to show the profit the ***monopolist*** shown in the graph below receives.

P

MC

profit

P*

ATC

D

Q*

MR

Q
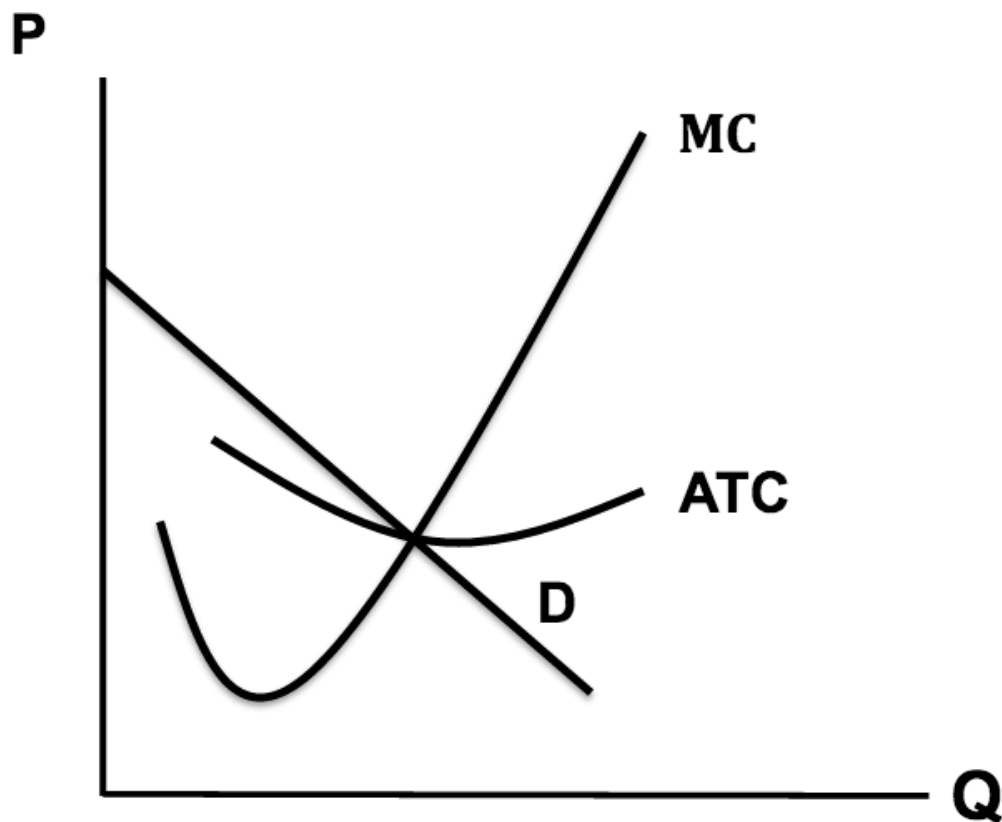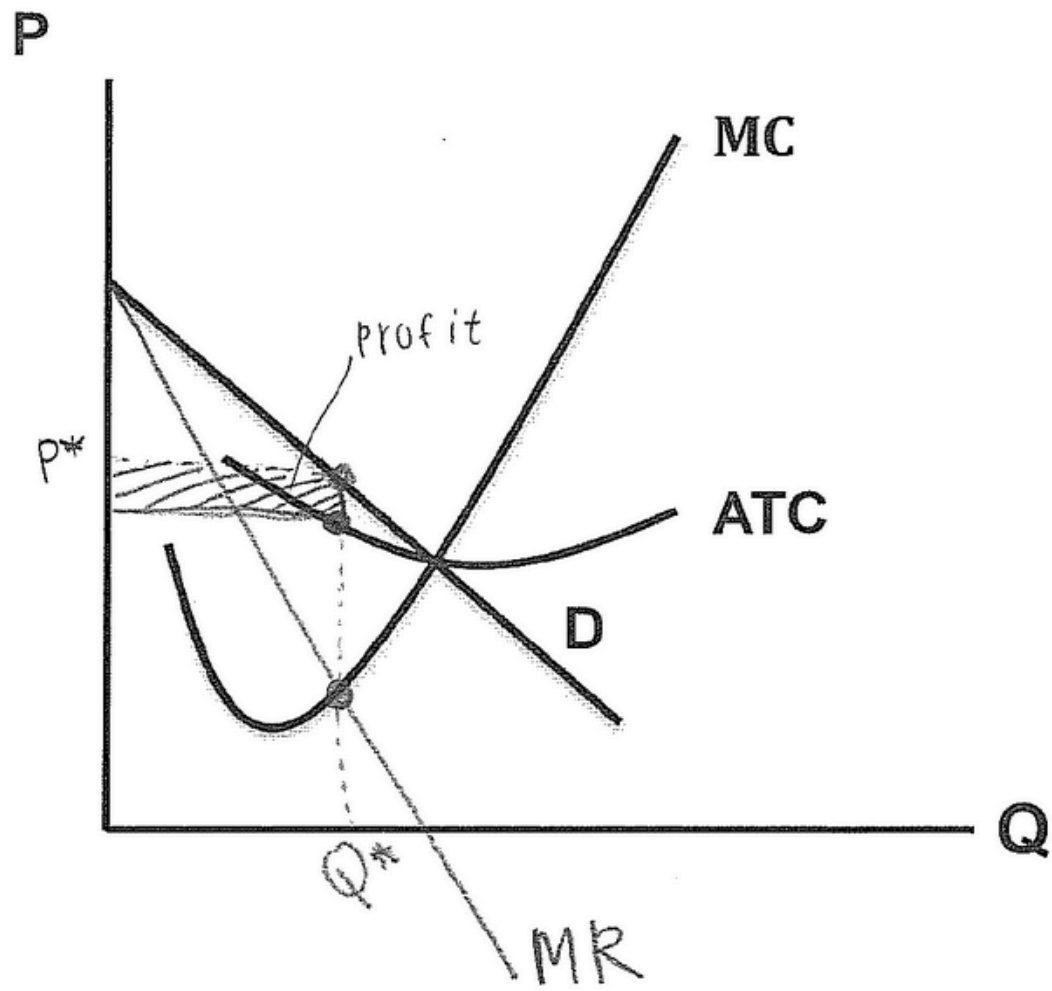
A firm has fixed costs of $100 and variable costs of the following:

Output	1	2	3	4	5	6	7	8	9
VC	35	75	110	140	175	215	260	315	390

a. Show AFC, ATC, AVC, and MC in a table

Quantity	AFC	ATC	AVC	MC
1	100.00	135.00	35.00	135
2	50.00	87.50	37.50	40
3	33.33	70.00	36.67	35
4	25.00	60.00	35.00	30
5	20.00	55.00	35.00	35
6	16.67	52.50	35.83	40
7	14.29	51.43	37.14	45
8	12.50	51.88	39.38	55
9	11.11	54.44	43.33	75

Due to the anti-trust laws in the US, you decide not to join the cartel. Word spread quickly, though, and the US government prosecuted the other plastic grocery bag firms and shut them all down. You're the only plastic grocery bag producer left in the industry! You know from earlier that the market demand curve and your marginal cost curve for plastic grocery bags is given by:

P (thousands)	Q (millions)	MC (thousands)
10	1	2
8	2	1
6	3	2
4	4	4
2	5	7
0	6	11

a. What price would you charge and how many plastic grocery bags would you produce?

What price would you charge and how many plastic grocery bags would you produce?

Answer: To complete this question we should fill in additional information from the chart:

P (cents)	Q (millions)	MC (cents)	**TR (thousands)**	**MR (thousands)**
10	1	2	**10**	**10**
8	2	1	**16**	**6**
6	3	2	**18**	**2**
4	4	4	**16**	**-2**
2	5	7	**10**	**-6**
0	6	11	**0**	**-10**

The profit maximizing point is where $MC = MR$.
Therefore, your firm will produce 3 million plastic grocery bags and will sell each one at 6 cents each.