Economics & Society

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Practice Set 3

Cost, Supply & Competitive Markets

This set contains problems for your own practice. It is highly recommended to work on the problems on your own. Do not just read the provided solutions. Instead, try to solve the problems and use the solutions only when you cannot continue on your own. Reading problems that someone else has solved has the same value for your preparation like watching someone else running a marathon on TV and then expecting to be able to run it, too. If you have questions on this set, please ask your section's teaching assistant.

1. Fill in the following table:

q	TC	VC	FC	MC
0	___	___	60	-
1	___	10	___	___
2	90	___	___	___
3	___	___	___	20
4	___	80	___	___
5	180	___	___	___
6	___	___	___	50

2. Klara is a tutor of Spanish charging 30 euros per hour for lessons. At this price, she can find plenty of customers. Recently, she also started an online store where she sells handmade necklaces. The market for necklaces is perfectly competitive and the price for a necklace is 20 euros. It takes Klara 10 minutes to make a necklace and the marginal cost of materials is given below.

Necklaces per day	1	2	3	4	5	6	7	8	9	10
MC of materials	20	10	3	1	2	4	7	11	18	28

Derive the optimal number of necklaces Klara should produce per day.

3. Bob bought his car for $200k and drives for Grab full time. If he was not driving Grab, his next best alternative would be to work as a chauffeur for $39k per year. If he had become a chauffeur, he would not need to own a vehicle, so he could have left the $200k in the bank and earn $3k annual interest.

   (a) If Bob had chosen to work as a chauffeur, and thus not own a vehicle, would he be $200k wealthier?

   (b) How much should Bob earn per year from Grab in order to say that he makes "zero economic profit"?

   (c) If Bob was making zero profit, would he stay or exit the business of driving for Grab?

   (d) What is the difference between making "zero accounting profit" and making "zero economic profit"?

   (e) What would it mean if Bob was making economic profit equal to $20k?

   (f) What would it mean if this year Bob earned $35k?

   (g) Which definition of profit -accounting or economic- is more appropriate when taking decisions?

4. Explain why a PC firm will not shut down in the S-R when $AVC < p < AC$.

5. Which of the following formulas would yield the profit of a firm?
   $$(1)\ \Pi = R - C, \qquad (2)\ \Pi = (p - AC)q, \qquad (3)\ \Pi = (p - AVC)q - FC.$$

6. Explain why when MC is constant, then $AVC = MC$.