

Problem Set #6
Principles of Microeconomics
Professor Hungerman

1. TRUE/FALSE: Economic Efficiency implies profit maximization. Explain your answer.

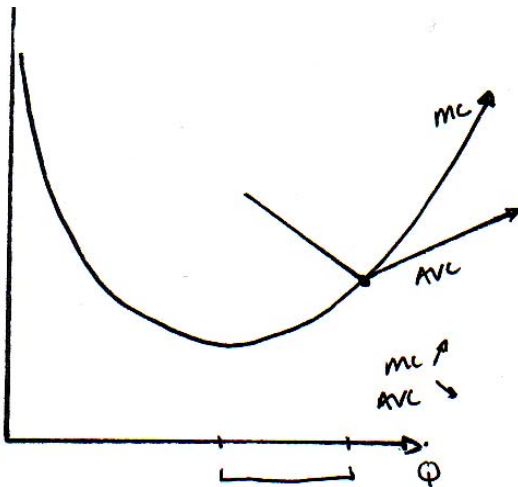
This is false—while profit maximization implies economic efficiency, it is not true that economic efficiency implies profit maximization. For any given level of output, it is possible for a firm to achieve economic efficiency. However, it is not possible for a firm to maximize profit at any given level of output. So the statement is false.

2. TRUE/FALSE: Profit maximization implies cost minimization. Explain your answer.

This statement is also false. However, it is true that when a firm is maximizing profit, the firm is producing this profit-maximizing level of output in the cheapest way possible. Thus, profit maximization implies economic efficiency, but does not imply cost minimization.

3. TRUE/FALSE: If marginal costs are rising, than average variable costs are rising. Explain.

False! If marginal costs are above AVC, the AVC is rising, but marginal costs might be both rising and below AVC at the same time.



4. If $ATC = 100$, and $Q = 50$, and $AVC = 50$, then what is TFC ?

$$TFC = 2500$$

5. Do problems 1 and 2 in the book, page 237. (It is okay to use a calculator if you want).

Here is a table with the calculations for this problem:

| Labor | Output | AP_L | MP_L | TC | MC | ATC |
|-------|--------|--------|--------|------|-------|-------|
| 1 | 30 | 30 | 40 | 1500 | | 50 |
| 2 | 70 | 35 | | 2000 | 12.5 | 28.57 |
| 3 | 120 | 40 | 50 | 2500 | 10 | 20.83 |
| 4 | 160 | 40 | 40 | 3000 | 12.5 | 18.75 |
| 5 | 190 | 38 | 30 | 3500 | 16.67 | 18.42 |
| 6 | 210 | 35 | 20 | 4000 | 25 | 19.04 |
| 7 | 220 | 31.4 | 10 | 4500 | 50 | 20.45 |

Here the Marginal values for Labor = 2 are really the marginal values between Labor = 1 and Labor = 2, and so on.