

ECON 107

Quiz 6

(Note this is a mistake, this is actually Q7)

This quiz will last 10 minutes.

1. (3 points) **Honor Statement:** Please read and sign the following statement:

I promise that my answers to this test are based on my own work without reference to any notes, books, or the assistance of any other person. I will also neither help others nor use a calculator or other electronic aid for calculation.

Name and Surname: _____

Student ID: _____

Signature: _____

2. (4 points) Explain why a firm sets $MC(q)$ equal to P .

Solution 1 The firm's profits are:

$$\pi(q) = Pq - C(q)$$

and since the firm is a perfect competitor, $\frac{\partial P}{\partial q}$ or $MR = P$ thus their first order condition is:

$$P - MC(q) = 0$$

or $MC(q) = P$. (In short, profit maximization.)

3. (4 points) Explain why a firm won't produce unless $P \geq AVC(q)$.

Solution 2 If a firm shuts down their profit will be $-F_{su}$, where F_{su} is the sunk costs. If they produce their profit will be $Pq - C(q)$ thus in order for them to produce we must have:

$$Pq - C(q) \geq -F_{su}$$

or

$$Pq \geq C(q) - F_{su}$$

or

$$P \geq \frac{C(q) - F_{su}}{q} = AVC(q)$$

4. (6 points) Define *rationality* and explain why it is important for social scientists to assume subjects are rational. (Please use the next page if necessary.)

Solution 3 *Rationality simply means that people optimize, though of course we implicitly assume they are also extremely smart.*

We assume this due to humility and respect. Humility to recognize that just because our subjects do not have a PhD does not mean they are stupid. Respect because usually they face higher stakes in whatever we are analyzing than we do, and thus surely have a better answer than we could.

5. (3 points) Standard feedback questions:
- (a) Out of ten, my level of comprehension of the material covered this week is:

 - (b) My favorite topic of the week was:

 - (c) The topic I understood the least this week was: