Economics 11 Caltech Spring 2010

QUIZ 4

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Following the Honor code, you should find 20 minutes and do the quiz, by yourself and without using any notes. Paper and pen should be all you need. Turn it in by Thursday 4-22 5pm. (drop off in lecture or in box in front of Baxter 133).
Each quiz is worth 6pts (for 48 out of 200 possible pts for all 8 quizzes)

The answers to the whole homework will be available Friday at 2pm.
Definition (use words not equations)
3 lines or less
1pt Please define: Marginal cost.

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Word problem
2pts True or False: Please explain each question in a few sentences.

How does a profit-maximizing firm decide how much to produce if it takes all prices as given? Why does the same firm shut down if the price falls below the minimum average variable cost of production?

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Technical problem
3 pts

• Suppose a company has total cost given by $rK + 2 \frac{Q^2}{K}$, where capital $K$ is fixed in the short-run.\(^1\)
  ○ For a given quantity $q_0$, give a formula for the level of capital that minimizes total cost?
  ○ Suppose capital $K$ can be adjusted in the long-run. Does this company have an increasing return to scale, decreasing returns to scale or constant returns to scale?

\(^1\) McAfee’s *Introduction to Economic Analysis*