ECON 224, Prof. Hogendorn, Spring 2010

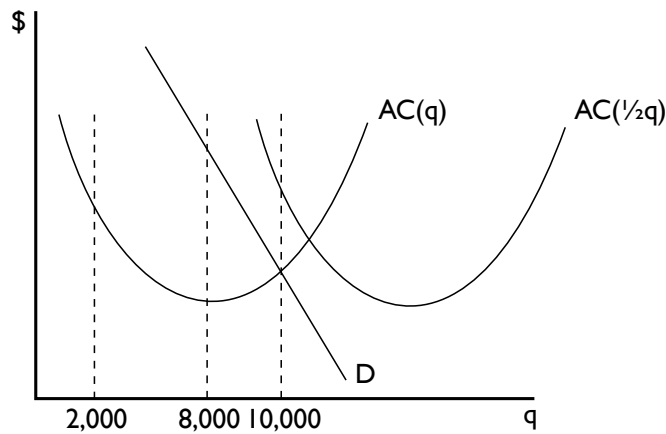# Second Quiz Answers

1. *SwimmingTest_a.*

   (a) Since the AC(½q) curve is only evaluated at one-half the quantity, it is shifted to the right.

   (b) The municipal pool is an unsustainable monopoly. Since it is operating on the upward-sloping part of the average cost curve, it is vulnerable to an entrant firm that serves less than 10,000 children and achieves lower average costs as a result.

   Once the entrant is in the market, the municipal pool only has 2,000 children left. This does not give it nearly enough economies of scale to operate at a reasonable price, so it is not surprising that it shut down. Actually, the situation is probably even worse than shown on the graph, since the entrant was a "cream-skimmer" and the remaining 2,000 children have higher-than-average costs.

   (c) Yes, there could be a legitimate public purpose for restricting entry in this market. The municipal pool is subadditive, meaning that it costs less to serve the 10,000 children with one pool than with

two. Even two pools that both served 5,000 each would have much higher costs, as shown by the vertical line at 10,000 on the graph. Thus, entry simply destabilizes the industry and causes wasteful duplication of fixed costs. It may also prevent service to all 10,000 children.

One could argue that since the 2,000 children who can't swim cost more, the entrant has found a "new technology" that decreases costs in this industry. But this is not really the case, since the municipal pool could have adopted the same policy. The fact that the municipal pool was serving 10,000 children suggests that society has already made a decision that serving all children is a worthwhile goal, so the entrant is simply disrupting that decision, not introducing an innovation.

(d) If the two pools competed as Cournot competitors, they would each have reaction curves that give the best-response to the quantity decision of the other pool. The endpoints of the reactions curves are where one firm gets a monopoly, and where one firm is kept out of the market entirely. We aren't given enough information to know these intercepts exactly, but we can presume that if one firm produces 10,000, the other firm is definitely deterred from producing since there are no children left. We can also presume that the monopoly quantity is even less than that, since the goal of a monopoly is to reduce quantity in order to increase price. Thus, the reaction curve diagram must look something like this:
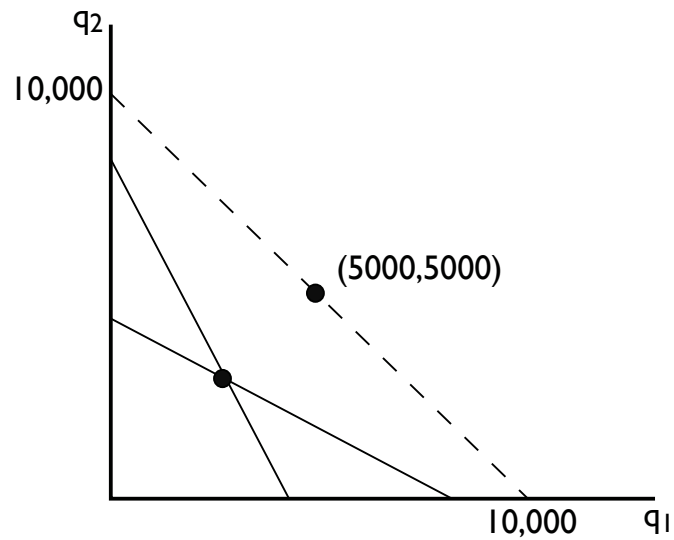
Although we don't know the exact location of the point where the reaction curves cross, we do know that it must lie closer to the origin than (5000,5000). So (2500,2500) is a better answer. It also accords with the intuition that while Cournot is more competitive than monopoly, it still tends to result in a quantity low enough to create some deadweight loss. If all 10,000 children were served, it is hard to see how there could be any deadweight loss.