Midterm Test 3
Econ 2129b – March 25, 2013

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Instructions: Answer **all** of the questions below in your exam booklet. Be sure to put your Name and Student Number on all booklets. You should have nothing on your desk other than something to write with and your student ID.
Mark values for each question are in parentheses, and there are a total of **60 marks** on the test.

Time Allowed: 50 minutes

Section I: For each statement listed, write in your exam booklet the word or phrase that best fits into the blank. (4 marks each)

1. If a market contains 5 sellers, each of which produces a product which buyers regard as homogeneous, then the most appropriate model for understanding that market is a _____ model.

2. If an oligopoly market is in a Bertrand-Nash equilibrium, then each firm has chosen the _____ that maximizes its profits, given the _____ chosen by the other firms.

3. A _____ strategy for a player in a one-shot game is one which is a best-response to any strategies used by other players.

4. Every subgame perfect equilibrium of an extensive-form game is also a _____ of that same game.

5. Cain and Abel are playing a one-shot game in which each must choose from the same set of 4 strategies, $\{s_1, s_2, s_3, s_4\}$. Cain's Nash Equilibrium strategy has him flipping a coin and choosing s_1 if it comes up heads and s_3 if it comes up tails. Cain is therefore using a _____ strategy.

Section II: Answer all of the following in your exam booklet.

6. (10) Use what we learned about behavior in a Cournot oligopoly market to explain why a set of observations of the prices charged by firms in such a market is expected to be more variable over time if the firms are behaving as Cournot competitors than if they are colluding. (Your answer must, at minimum, include clear explanations of the behavior of these firms in both cases.)

7. (8) Give one example of a market/industry that you think is a good example of a Cournot oligopoly, and one example of a market/industry that you think is a good example of a Bertrand oligopoly. You must defend your answers by explaining why each of your examples fits the model you've indicated.

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8. (10) Consider the payoff matrix below for a one-shot game in which two players, A and B, each have three possible strategies, as indicated.

Player A↓/PlayerB→	X	Y	Z
T	**(1,-1)**	**(2,2)**	**(1,1)**
U	**(2,-1)**	**(D,0)**	**(3,3)**
V	**(-1,1)**	**(1,2)**	**(0,0)**

a) If **D** = 3, answer the following, and justify your answers:
i) Does either player have a dominant strategy and if so, what is it?
ii) How many Nash equilibria does this game have, and what are they?

b) If instead **D** = 0, answer questions i and ii above again, for this new game.

9. (12)
a) Write down and explain the extensive form (sequential move) game we used to analyze a situation in which a market is being served by a single monopoly firm, and some entrepreneur is deciding whether or not to enter this market and compete with the existing 'incumbent' firm. You must explain all of the symbols and notation you use.

b) In your game from a) above, explain what determines whether or not the incumbent can credibly deter the entrepreneur from entering this market. (Your answer must at minimum explain what is meant by 'credibly deter'.)

c) If the incumbent firm in your model were Walmart Canada and the potential entrant was Target of Canada, would you expect the conditions you laid out in b) for credible entry deterrence to hold, or not? Defend your answer.