Chapter 7

7.3 Show first that if a strategy is strictly dominated in some round, then it remains strictly dominated by some remaining strategy in every subsequent round.

7.5 For (c), when is 99 a best response? To find W_i^1, follow these steps. Step 1: Show that if 14 results in a tie, then 15, 16, ..., 100 either lose or tie. Step 2: Show that 14 wins if all other players choose a number strictly above 14. Step 3: Show that 14 loses only if one-third the average of the numbers is strictly less than 14. Conclude from steps 2 and 3 that if 14 loses, so do 15, 16, ..., 100.

7.7 For (a), use the Nash equilibrium existence theorem.

7.8 Employ a fixed-point function similar to the one used to prove the existence of a Nash equilibrium to prove the existence of a strategy $m^* \in M_1$ for player 1, which maximizes $u_1(m, m^*, \ldots, m^*)$ over $m \in M_1$. Then invoke symmetry.

7.9 See Exercise 7.7, part (c), for the definition of a game's value. See Exercise 7.8 for the definition of a symmetric game.

7.13 Do not rule out weakly dominated strategies. Are all of these equilibria in pure strategies? Verify that the high-cost type of a firm 2 earns zero profits in every Bayesian-Nash equilibrium.

7.21 Allow information sets to "cross" one another.

7.31 Can 3's beliefs about 2 be affected by 1's choice?