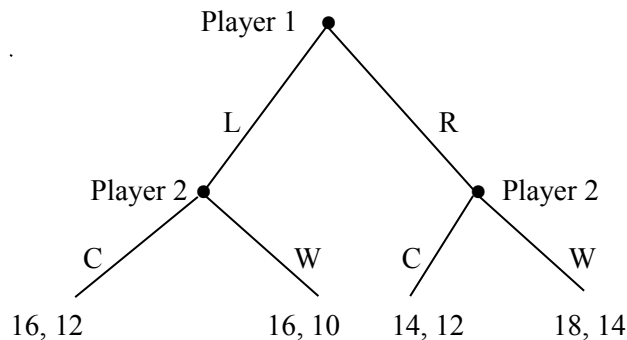


Test
Advanced Microeconomics: Part II (Uwe Jirjahn)

Summer 2018

Choose **two** questions out of the three questions Q1, Q2, Q3.

Q.1 Consider the following extensive-form game:



Q.1.a Depict the corresponding normal form of the game.

Q.1.b Identify the Nash equilibria.

Q.1.c Identify the subgame-perfect Nash equilibrium by using backward induction.

Q.2 Player 1 and player 2 bargain over sharing 100 dollars. The Nash product is: $\Omega = (x_1 - 20)^{1/2}(x_2 - 40)^{1/2}$. Find the bargaining solution.

Q.3 Two firms produce homogeneous products. The inverse demand function is: $p = 170 - x_1 - x_2$, where x_1 is the quantity chosen by firm 1 and x_2 the quantity chosen by firm 2. The cost functions of the firms are $C_1(x_1) = 20x_1$ and $C_2(x_2) = 20x_2$. The two firms choose their quantities simultaneously.

Q.3.a Identify the Nash equilibrium analytically.

Q.3.b Depict the Nash equilibrium graphically.

Note: If you answer all three questions, we will only consider Q.1 and Q.2.