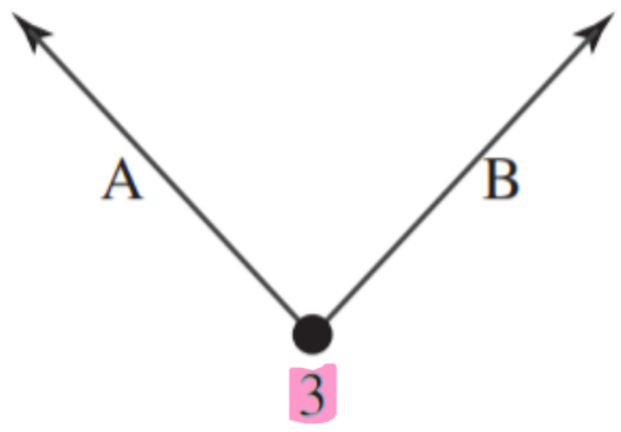
22 Extra Problems

Monday, November 9, 2020 10:25 AM

7. Consider the following three-player game.

1 \ 2	L	R
U	2, 2, 0	5, 5, 5
D	8, 6, 8	0, 7, 4

1 \ 2	L	R
U	4, 4, 1	4, 2, 8
D	0, 2, 9	4, 2, 5



The players make their choices simultaneously and independently. The payoffs are listed in order of the player numbers.

(a) Find the (pure-strategy) Nash equilibria of this game.

See highlights

(b) Consider the two-period repeated game in which this stage game is played twice and the repeated game payoffs are simply the sum of the payoffs in the two periods. Compute and report all of the subgame perfect equilibria of this repeated game. List the set of subgame perfect equilibrium payoffs.

OLA

Pure NE: (ULB) and (ORB)

1) O @ T=1
   O @ T=2 if A@T

(more)

2) L @ T=1
   L @ T=2 if U, A @ T=1 L otherwise

Is that a BR for Player 1?

4+8 = OLA + ORB then 2+4 = ULA + ULB

2?

6+2 or 7+4
8 or 11

3?

8+5 or 9+1
13 or 10

If URA @ t=1 → 3
   ORB @ t=1 → 1
   else ULB @ t=2 → 4