§14.5: Three-Person Constant-Sum Game

1.] Consider the following three-person zero-sum game:

	$\underline{R_1}$		$\underline{R_2}$	
	C_1	C_2	C_1	C_2
L_1	$(1, 1, -2)$	$(-4, 3, 1)$	$(3, -2, -1)$	$(-6, -6, 12)$
L_2	$(2, -4, 2)$	$(-5, -5, 10)$	$(2, 2, -4)$	$(-2, 3, -1)$

a.) Determine the Nash equilibria.

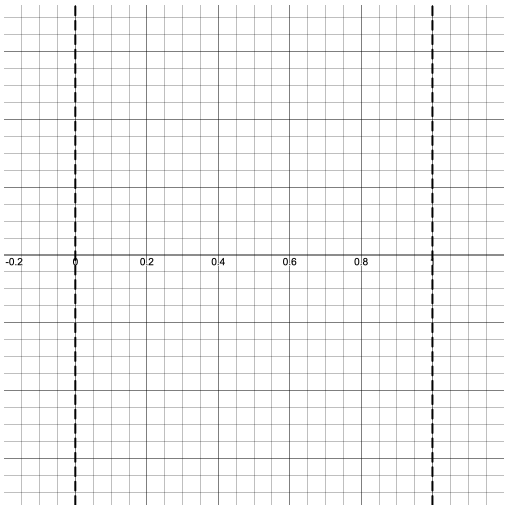
b.) Assuming coalitions are possible, determine the three "two-person" zero-sum games based on each coalition.

	C_1R_1	C_2R_1	C_1R_2	C_2R_2
L_1				
L_2				

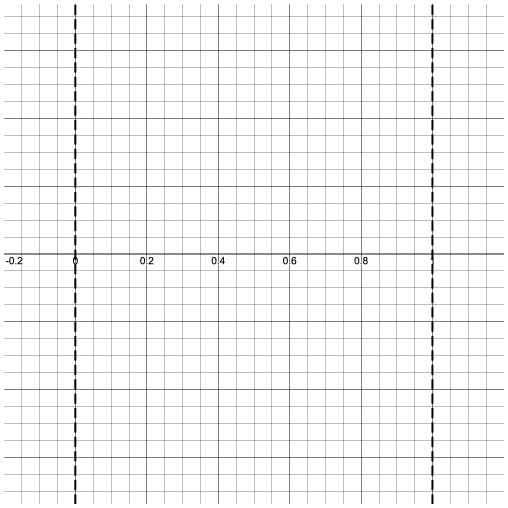
	L_1R_1	L_2R_1	L_1R_2	L_2R_2
C_1				
C_2				

	L_1C_1	L_2C_1	L_1C_2	L_2C_2
R_1				
R_2				

c.) Find the mixed strategies and the value of the game for each player in the C-R coalition game.



d.) Find the mixed strategies and the value of the game for each player in the L-C coalition game.



e.) Determine the characteristic function of the game.