

Assignment 4

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CCST9017 - Hidden Order in Daily Life: A Mathematical Perspective

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Question 1a. Model the situation as a suitable cooperative game $(N; v)$.

Answer 1a.

Let Amy, Betty and Clara be player 1, 2 and 3 respectively

Hence $N = \{1, 2, 3\}$

Such model should be

$$v(\emptyset) = 0$$

$$v(1) = 125$$

$$v(2) = 130$$

$$v(3) = 200$$

$$v(1, 2) = 125 + 130$$

$$= 255$$

$$v(2, 3) = 130 + 200$$

$$= 330$$

$$v(1, 3) = 125 + 200$$

$$= 325$$

$$v(1, 2, 3) = 350$$

Question 1b. Use a diagram to represent the game defined in part a

Answer 1b.

