HW 8.7

Sunday, September 20, 2020 4:41 PM

Consider a game in which, simultaneously, player 1 selects a number $x \in [2, 8]$ and player 2 selects a number $y \in [2, 8]$. The payoffs are given by:

$$u_1(x, y) = 2xy - x^2$$
$$u_2(x, y) = 4xy - y^2.$$

Calculate the rationalizable strategy profiles for this game.

u_1 d1 $= 2y - 2x = -2(y - x)$
u_1 d2 $= -2$

u_2 d1 $= 4x - 2y$
u_2 d2 $= -2$

$2 \cdot 8 \cdot 2 - 8^2 = 4 \cdot 8 - 64 = 32 - 64 = -32$
$4 \cdot 8 \cdot 2 - 2^2 = 64 - 4 = 60$