Problem Set

HUL 212

September 14, 2022

Question 1

Vanna Boogie likes to have large parties. She also has a strong preference for having exactly as many men as women at her parties. In fact, Vanna's preferences among parties can be represented by the utility function $U(x, y) = min\{(2x - y), (2y - x)\}$ where x is the number of women and y is the number of men at the party. On the graph below, let us try to draw the indifference curve along which Vanna's utility is 10.
0.1

(a) Draw the locus of points at which x = y. What point on this gives Vanna a utility of 10?. Draw the line along which $2y - x = 10$. When $min\{(2x-y), (2y-x)\} = (2y-x)$, there are (more men than women, more women than men)? Draw a line over the previous line for which U(x,y) = $min\{(2x - y), (2y - x)\} = (2y - x)$. This shows all the combinations that Vanna thinks are just as good as (10, 10) but where there are (more men than women, more women than men)? Now draw a line along which $2xy =$ 10. Draw a line over for which $min\{(2x - y), (2y - x)\} = (2x - y)$. Use pencil to shade in the area on the graph that represents all combinations that Vanna likes at least as well as (10, 10).
0.2

(b) Suppose that there are 9 men and 10 women at Vanna's party. Would Vanna think it was a better party or a worse party if 5 more men came to her party? **0.3**

(c) If Vanna has 16 women at her party and more men than women, and if she thinks the party is exactly as good as having 10 men and 10 women, how many men does she have at the party? If Vanna has 16 women at her party and more women than men, and if she thinks the party is exactly as good as having 10 men and 10 women, how many men does she have at her party? **0.4**

(d) Vanna's indifference curves?

Question 2

Kinko spends all his money on whips and leather jackets. Kinko's utility function is $U(x, y) = min\{4x, 2x+y\}$, where x is his consumption of whips and y is his consumption of leather jackets. Kinko is consuming 15 whips and 10 leather jackets. The price of whips is 10. Find Kinko's income.