**Problem 4**

Two consumers, Mamoon and Kader, consume only two goods, good 1 and good 2, with the quantities of each consumed denoted by x1 and x2 respectively. The price of x1 is $6/unit, and the price of x2 is $5/unit. The consumer has a fixed income of $64.

Mamoon has a utility function：；

Kader’s utility function is:

**Part2 Kader’s problem**

1. Solve Kader’s utility maximization problem. (6marks)
2. Show the on a diagram with the horizontal axis represents and the vertical axis represents the way to find the optimal consumption bundle of Kader graphically, label the optimal bundle.(3marks)