ITEM THREE

A carpenter operates his workshop on a rectangular piece of land. The length of the land is 4metres longer than its width and the total area of the land is 96 square metres. Due to land wrangles, he would like to know the exact dimensions of the plot.

On this plot, he makes and sells stools, chairs and desks:

In the first week, he sold a stool, a chair and a desk and made total sales of 37 dollars.

In the second week, he sold a stool, two chairs and 4 desks and made total sales of 94 dollars.

In the third week, he sold two stools, a chair and a desk and made total sales of 47 dollars. Though he doesn't know the price of each item for proper book balancing.

On a particular day, the production rate of y chairs and x stools are represented by the equations $\log(x+y)=0$ *and* $2\log x=\log(y-1)$.

Tasks

(a) What are the dimensions of the plot?

(b) Help the carpenter to determine the price of each item sold.

(c) Determine the possible number of chairs and stools he can make in a day.

END