Lesson Problem Statement

Lesson problem statement: Your objective is to place some pencils in a tray such that they are stable. This means that you must align the long axes of the pencils with the groove in the tray. You know that a golf pencil (x) is 3.5-inches long and a regular pencil (y) is 7.5-inches long. The tray has room for no more than 52.5 linear inches of pencils (the groove is 52.5 inches long). Question: How many of each pencil should you use in order to maximize the total number of pencils in the tray?