

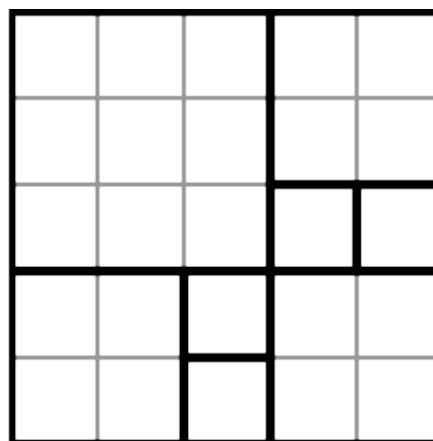
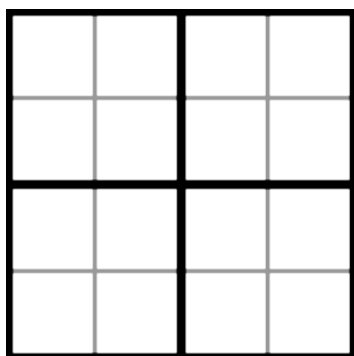
Mathematics 1101Y – Calculus I: functions and calculus of one variable
TRENT UNIVERSITY, 2010–2011

Assignment #5



Due on Friday, 26 November, 2010.

The general problem is to divide an $n \times n$ for some integer length n into the least possible number of squares with sides of length strictly less than n . For example, any square with sides of even length, say $2k \times 2k$, can be divided into four $k \times k$ squares. Note that, in general, the smaller squares do not all have to be the same size. Optimal divisions for 4×4 and 5×5 squares are given in the diagram below.



1. Divide a 9×9 square into as few squares which each have sides of integer length strictly less than 9 as you can. Provide a picture! [5]
2. Divide a 13×13 square into as few squares which each have sides of integer length strictly less than 9 as you can. Provide a picture! [5]