

Re: Partitioning a square to a fixed sized rectangles–

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- *From:* JEMebius <jemebius@xxxxxxxxxx>
 - *Date:* Sat, 31 May 2008 18:09:46 +0100
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James Waldby wrote:

On Sat, 31 May 2008 08:37:35 –0700, no.glamour wrote:

On May 31, 4:54 pm, Brian Chandler <imaginator... wrote:

no.glam...@xxxxxxxxxx wrote:

I would appreciate it if someone can give me an hint on this one:
Prove/disprove that a 3000X3000 square can be partitioned into 5X7 rectangles (the rectangles can be mixed, either 5X7 or 7X5). The question is part of a graph theory course, so I think the idea is to module it into a graph, and use any kind of its properties.

If it can be so partitioned, you'd better be able to divide the area of the square by the area of the rectangle...

So having the above is sufficient but not enough.

No, divisibility is necessary but not sufficient. The phrase "sufficient but not enough" is self–contradictory.

Let's think about an example in which which the square can partitioned into rectangles of various lengths (s1xs2 and s3xs4), how that can be checked?

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The wording of the problem is ambiguous: it could mean: "partitioned into 35 rectangles".

Assume that "5x7 rectangle" indeed means a rectangle with sides of 7 and 5 length units.

Then any square which can be tiled by such rectangles has an integral multiple of 35 as its area. A 3000x3000 square does not qualify.

Happy tiling and gardening: Johan E. Mebius

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