

Dear Professor Miller

I read your letter about the problem published in American Mathematical Monthly p 280, and I'm delighted by your "almost" decomposition theorem. I follow your arguments and I hope that you can extend them easily from the ~~case~~ case when $(R, +)$ is replaced by a group $(G, *)$ which is not finitely generated. For finite groups $(G, *)$ is possible that $f: G \rightarrow G$ cannot be written

$$f = g_1 * \dots * g_n(x), \quad g_k \text{ bijections } g_k: G \rightarrow G$$

where $(g * h)(x) = g(x) * h(x)$.

By example $G = \mathbb{Z}_n, n \geq 3$. Also from your results it follows easily that:

[For every $f: R \rightarrow R$ there exists bijective functions $g_1, g_2, g_3: R \rightarrow R$ such $f = g_1 + g_2 + g_3$]

I'm interested especially in the case when the algebraic topologic aspects are primordial. By example

Problem $f: \mathbb{T} \rightarrow \mathbb{T}$ continue

There exist n homeomorphisms $g_1, \dots, g_n: \mathbb{T} \rightarrow \mathbb{T}$

$$f = g_1 + \dots + g_n$$

\mathbb{T} has a compatible structure of topologic group.

I thank you for the interest in this field, and I'll be glad to know if you want to collaborate.

Sincerely yours

Louis Funer, Univ Craiova, Craiova, Romania