

Generating multiplets of involutions of linear groups over the ring of integers

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Let $GL_n(\mathbb{Z})$ is the group of invertible $(n \times n)$ -matrix over the ring of integers \mathbb{Z} , $SL_n(\mathbb{Z})$ its subgroup of matrix with determinant equal to 1, $PGL_n(\mathbb{Z})$ and $PSL_n(\mathbb{Z})$ their quotients. For these groups, consider the following problems.

- A) Is a group generating by three involutions?
- B) Is a group generating by three involutions, two of which commute?
- C) What is the minimum number of generating involutions whose product is 1?