Recall:

Thm 5.1: Every permutation of a finite set can be written as a cycle or as a product of disjoint cycles.

Thm 5.2: If the pair of cycles $\alpha = (a_1 a_2 \dots a_m)$ and $\beta = (b_1 b_2 \dots b_n)$ are disjoint, then $\alpha \beta = \beta \alpha$.

Lemma: If α is an cycle of length n, then α has order n.

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