(1.4) $|G| = 2n$

$G = \{\underset{\overset{\shortparallel}{e}}{g_1}, \dots, g_{2n}\}$ $\quad \sigma(e) = 1 \quad$ ha $i \in \underline{2n}$ $\quad g_i =: g$

$g \neq e \;\; \exists g' \in G \quad gg' = e = gg'$

ha $g' = e \quad gg' = g \to g = e$ ↯ $\to g' \neq e$

olyan elemet keresünk, ami nem e és inverze önmaga, ~~az inverz~~
így inverz-párok lesznek, így $2n-1$ ptlan számú elem, így

2025.09.17.

(2.1)/1. $g^m = e \to \sigma(g) \mid m$

ha $\sigma(g) \nmid m \Rightarrow m = q\,\sigma(g) + r \quad r < \sigma(g)$

$g^m = g^{q\sigma(g)} \cdot g^r \to g^r = e$ ↯ ($\sigma(g)$ df-ja miatt)

(2.3)/1. $\begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 4 & 1 & 3 \end{pmatrix} = (1243)$

/2. $\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 2 & 4 & 6 & 1 & 3 & 5 \end{pmatrix} = (124)(365)$

/3. $(12345)^{-1}(123)(45)(12345) = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 5 & 1 & 2 & 3 & 4 \end{pmatrix}^{-1}(123)(45)(12345) =$

$= \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 2 & 3 & 4 & 5 & 1 \end{pmatrix}(123)(45)(12345) = (15)(234)$

/4. $(12)(13) = (123)$
$(12)(13)(14) = (1234)$ stb teljes indukció

(2.5)/1 $\sigma((123)(4567)(89)) = \mathrm{lkkt}(3,4,2)$

/2. $\sigma((123)(234) = (13)(24)) = 2$

/3. $\sigma((123)(4567)(567) =$
$= (1246573)) = 7$