Homeworks

2022.10.12

1. Show that the intersection of two subgroups of a group G is a subgroup of G.

2. Let H be a subgroup of G, If $g \in G$, show that

$$gHg^{-1} = \{g^{-1}hg | h \in H\}$$

is also a subgroup of G.

3. Please write $(456)(567)(761)$ as product of transpositions.

4. What is S_4?

5*. Let a, b be two elements of a group G, and $aba = ba^2b, a^3 = 1, b^{2n-1} = 1$. Then $b = 1$.