

Math 417: Homework 8

Due Friday, October 29, 2021

1. Goodman, exercise 3.2.2.
2. Goodman, exercise 3.2.4.
3. Goodman, exercise 3.2.5.
4. Goodman, exercise 3.2.6.
5. The symmetric group S_n acts naturally on the set $\{1, 2, \dots, n\}$. Let $\sigma \in S_n$, and let $\langle \sigma \rangle \leq S_n$ be the subgroup generated by σ . Explain the relationship between
 - (a) the orbits of the action of $\langle \sigma \rangle$ on $\{1, 2, \dots, n\}$, and
 - (b) the disjoint cycle decomposition of σ .

(This is a reformulation of Goodman's exercise 5.1.3)
6. Goodman, exercise 5.1.5.
7. Goodman, exercise 5.1.6.
8. Goodman, exercise 5.1.7.