

Reading Quiz §10

1. [2] Let H be a subgroup of a group G . Recall that the index of H in G is denoted $[G : H]$. Find the following:

$$[\mathbb{Z}, \langle 2 \rangle]$$

$$[\mathbb{Z}_{12}, \langle 4 \rangle]$$

2. Let G be a group and $y \in G$. Recall the centralizer of y in G is:

$$Z(y) = \{x \in G \mid xy = yx\}$$

- (a) [1] How is the centralizer of y different from the center of G ?

- (b) [1] Find $Z(2)$ in the group \mathbb{Z}_5 .

3. [1] Explain, define, or provide an example of a conjugacy class.