

Group theory – Sheet 9

The exercises from the book are 16.1, 16.2, 16.4, 16.7, 16.8, 16.11, 16.12.

16.5) Let D_∞ be the group given by

$$D_\infty = \langle a, b \mid b^2 = e; bab^{-1} = a^{-1} \rangle.$$

For a fixed $n \in \mathbb{N} \setminus \{0\}$, let $K = \langle a^n \rangle$. Show that K is normal and that $D_\infty/K \cong D_n$.