

Example 3.13 *What are the torsion units of $\mathbb{Z}C_3$? Just $\pm C_3$.*

If $C_3 = \langle x \mid x^3 = 1 \rangle = \{1, x, x^2, \}$, then the torsion units of $\mathbb{Z}C_3$ are $\pm C_3 = \{1, x, x^2, -1, -x, -x^2\} \cong C_3 \times C_2 = \langle x \rangle \times \langle -1 \rangle \cong C_6 \cong \langle -x \rangle$.

Question : Are the torsion units of RG equals $\pm G$ or $\mathcal{U}(R).G$ for all groups G and rings R ?