

- (g) $\mathcal{U}(\mathbb{Z}_2S_3)$ contains 12 elements. Find these 12 elements and find the abstract group of order 12 which $\mathcal{U}(\mathbb{Z}_2S_3)$ is isomorphic to. (Hint : use $x + \widehat{S}_3 + y + \widehat{S}_3$ where $\widehat{S}_3 = 1 + x + x^2 + y + xy + x^2y$). (ignore the zero-divisors for (g)).

Note : Bonus question (optional).

- (h) Find the zero-divisors of \mathbb{Z}_2S_3 .

Solutions