

MTH4104

Introduction to Algebra

Week 12 coursework

due 19 April 2022

You are to write up a careful and professionally presented solution to the question below. This is to be submitted on QMPlus as a single PDF or JPEG file by 12:00 noon, Tuesday 19 April 2022.

- To submit**
- (a) Write out the Cayley table for \mathbb{Z}_7^\times . [4 marks]
 - (b) List all the subgroups of \mathbb{Z}_7^\times , including the “obvious” or “trivial” ones. Explain how you generated your list and how you know it is complete. [6 marks]