Due Date: 6 Oct
Commutative Algebra: Fall 2023
Exercise sheet 2

Problem 1. Let R be a ring, M an R-module, and I an ideal of R. Suppose that $M_{\mathfrak{m}} = 0$ for all maximal ideals $\mathfrak{m}$ such that $I \subset \mathfrak{m}$. Show that $M = IM$.

Problem 2. Gathmann exercise 9.8

Problem 3. Gathmann exercise 9.12.