

Problem 1. Gathmann exercise 7.3.

Problem 2. Show that if R is a Noetherian ring, then an R -module M is Noetherian if and only if it is finite over R .

Problem 3. Let R be a ring, M a Noetherian R -module, and N a finite R module. Show that $M \otimes_R N$ is Noetherian R -module.