Information about the Algebra exam 2019 (MMG 500 and MVE 150)

The Algebra exam (MMG 500 and MVE 150) will take place March 22^{th} between 14.00 and 18.00. No aids are allowed. There will be re-exams June 10^{th} and August 21^{th}

The exam is based on the topics listed at "contents" under the headline "Information Algebra 2019" at the home page.

Almost all important concepts and results are summarised (in Swedish) at the lecture notes on the home page 2010. But Sylow's theorem on the existence of subgroups of prime power order and the number of roots of a polynomial over a field can only be found in Durbin's book (see section 58 and theorem 43.1).

The exam will be dominated by problems, which are similar to the ones listed under "recommended exercises" on the home page. The other problems in the same sections of Durbin's book are also representative.

The following theorems are particularly important and it is thus more likely that I will ask for proofs of these theorems than for the other ones.

5.1, 6.3, 7.1, 9.1, 10.1, 10.2, the Fundamental Theorem of Arithmetic including the proof of the unique ness part in lemmas 13.1 and 13.2, 14.3, 16.1, Lagrange's theorem on subgroups of finite groups including the proofs of theorem 16.1 and $(a) \Leftrightarrow (d)$ in lemma 16.1,18.2, 19.3, 21.1, 22.1, the Fundamental Homomorphism Theorem 23.1 for groups, 26.1, 38.1, 40.3 and 43.1.