

## Final examination

Here is the list compiled in class of ten theorems from this semester that are defined to be major by their appearance on past qualifying examinations. (The list is in alphabetical order.)

- Hadamard's factorization theorem for entire functions
- Hadamard's three-circles theorem
- Jensen's formula
- Mergelyan's approximation theorem
- Mittag-Leffler's theorem about meromorphic functions
- Monodromy theorem
- Montel-Carathéodory theorem (about normality of families of functions with missing values)
- Picard's big theorem (about the range of functions with essential singularities)
- Picard's little theorem (about the range of entire functions)
- Runge's approximation theorem

### Problem 1

State seven of these theorems.

### Problem 2

Prove four of these theorems.