Be sure to know definitions and statements of main results from class. Look over class examples, book, and your home work. In the review below there are numbers of main results as found in Munkres’ book, but of course you don’t need to know the numbers. Sometimes I ask true-false questions, so it is useful to know statements well.

§25 Local connectedness, local path-connectedness, 25.3, 25.4, 25.5.

§51 Homotopy and path homotopy, straight-line homotopy, operation * on paths, 51.1, 51.2.

§52 Categories and functors, fundamental group as a functor of pointed spaces 52.4, dependence on base point 52.1, simply connected spaces.

§53 Evenly covered neighborhoods, covering spaces and covering maps.

§54 Lifting of paths to coverings, uniqueness and existence of liftings of paths 54.1 and homotopy 54.2, Lifting correspondence 54.3, 54.4 and 54.6, The fundamental group of $S^1$ 54.5.

§55 Retractions, $S^1 \subset B^2$ is not a retract, 55.3 (not proved in class, but useful), Brouwer fixed point theorem 55.6.

§58 Deformation retracts and isomorphism of fundamental group 58.3, Homotopy equivalence, 58.5, 58.7.