

MAT A37: REMARKS ON SECOND MIDTERM

In preparation for the midterm, you should be comfortable with the following, as a minimum.

- (1) The name of your TA, and your tutorial number (the cover sheet of the exam is worth 5 points).
- (2) Limits! Both types: $\lim_{x \rightarrow a}$ and $\lim_{x \rightarrow \infty}$.
- (3) Inverse functions (definition, injective functions, how to find the inverse of a given function, how to differentiate an inverse function...)
- (4) Differentiation (definition, product rule, quotient rule, and chain rule – it is as important to understand the proofs of all these, as it is to know the statements).
- (5) Maxima and minima (connection to first and second derivatives – again, the proofs are as important as the statements).
- (6) Mean Value Theorem and related results (e.g. Rolle's theorem).
- (7) Increasing / decreasing functions, and the connection to derivatives.