MATH60142/70142 The Mathematics of Business and Economics

Notes on Spring 2025 exam

(Last updated 31/3/2025)

Some things that you will not need to memorise

You will not be expected to memorise any of the following for the exam; if any of these things are required for a question in the exam, they will be provided in the question statement. Please note that this list is not exhaustive (if something is not listed here, that does not mean that you will need to remember it).

- The definitions of:
  - a quasi-concave function,
  - a concave function,
  - a quasi-convex function,
  - a convex function,
  - a homothetic function.

- The statements of Hotelling's lemma or Shephard's lemma.

- The definitions of the following in the context of preference relations:
  - completeness,
  - reflexivity,
  - transitivity,
  - continuity,
  - weak/strong monotonicity,
  - local non-satiation,
  - (strict) convexity.

- The proof of the existence of an ordinal utility function.

- Slutsky's equation.