Tip. Don't start working! Read the whole exam first. You may wish to start with the questions that are easiest for you.

Tip. Neatness, cleanliness and organization count, here and everywhere else!

Tip. In math exams, "show" means "prove".

Tip. In math exams, "state" means "write the statement of, in full".

Tip. In math exams, yes/no answers must be accompanied with a proof.

Tip. "If and only if" always means that there are two things to prove.

Tip. Quote any theorem you use!

Tip. As always in math exams, when proving a theorem you may freely assume anything that preceded it but you may not assume anything that followed it.

Tip. Show all intermediate steps!

Tip. No need to copy the statements to your notebook, and no need to justify your answers. Note that a statement is considered "true" only if it is **always** true, and not just **sometimes**.

Tip. It is always an excellent idea to substitute your solutions back into the equations and see if they really work.

Tip. In math exams, "find" means "find and explain how you found".

Tip. Here and almost always, a concise yet precise solution is better than a lengthy roundabout one.

Tip. For this problem, you may freely use everything stated in class.

Tip. "There exists a unique" means two things: "there exists", and "if/once exists, it is unique". Both require a proof!

Tip. Once you have finished writing an exam, if you have time left, it is always a good idea to go back and re-read and improve everything you have written, and perhaps even completely rewrite any parts that came out messy.

Tip. No instructions were given as for *how* to compute, so you can use any method you wish.

Tip. You'd probably be wise to sketch your work: without that, you forfeit any chance of getting partial credit in case your end results are wrong.

Tip. You may want to start by writing "draft solutions" on the last pages of this notebook and only then write the perfected versions in the space left here for solutions.