Instructions. The three problems below are take-home, due on the date above. Answer checks are expected. If maple assist is used, then please attach the maple output.

1. (Poincare-Bendixson) Write a skeletal summary without proofs of the Poincare-Bendixson theorem and its proof. Include definitions and a statement of the Jordan curve theorem. Some account must appear of how the lemmas are applied to prove the theorem. Generously use references to the Schmitt-Thompson lecture notes, lecture slides and the Wiggins textbook.

2. () To be announced.

3. () To be announced.