

MATH 108, FALL 2002

HOMEWORK 2

This homework is due on Tuesday, October 15, in class. No late homework will be accepted. You are encouraged to work together, but must write up the answers individually. Be sure to provide proofs of all your answers.

- (1) 2B
- (2) 2D (page 18)
- (3) 2D (page 22)
- (4) 2E
- (5) 2F
- (6) 3C
- (7) Show that any five points placed on the plane such that no three are collinear contain the vertices of a convex quadrilateral. (First posed by Esther Klein in the 1930s. This led to the Erdos-Szekeres theorem).
- (8) Research an application of trees, graph colouring, or Ramsey theory and write about half page summarizing your finding. For example you could find a website describing an application and summarize and evaluate it. Alternatively, you could find the appropriate part of the library and see what books you can find. Email me the url of anything internet related.