MA212: Assignment # 2

Required Reading:

- Read Sections 8.4-8.6 and 8.8.

Any problems marked with * require the use of maple. All other problems are to be done by hand. Any problems marked with # can be submitted for review by the grader.

1. Textbook § 8.4: 13, 14#, 17, 18#, 28# (Be smart about minimizing work in problem 28.)
2. Textbook §8.5: 9, 10, 13, 23, 24, 25, 27, 28#, 40#, 44 (# 44 is not asking you to do any operations or refer to any specific matrix. It's just asking you to do a few simple algebra calculations.)
3. Textbook §8.6: 1, 2, 7, 17, 22#, 33, 36, 43. (Note for problem 7: Do not follow the text book's instructions. Never use the adjoint formula. Use row operations to produce the inverse.)
4. Textbook §8.8: 2#, 5, 12#, 16#, 21. (Note: don't overthink problems 2 and 5. Your being asked to *check* eigenvectors not *derive* eigenvectors.)
5. # Suppose a square matrix, A, has a rank less than the number of its rows.
   (a) What can you conclude about its determinant?
   (b) What can you conclude about its eigenvalues?