

MATH 22: Homework 7

[Due Nov 3rd]

Written homework is intended to help students develop their communication and exposition skills through complete write-ups. While correctness of the solution is, of course, necessary, much of the grade for the problem is dependent on clear and appropriate exposition. Exposition shall be appropriate for the type and level of the problem. One principle we use is that exposition should be detailed around the main aspects of the problem, but terse exposition is appropriate for subsidiary parts of a problem.

1. problem 5.1.2
2. problem 5.1.7, just for the first matrix
3. problem 5.1.9
4. problem 5.1.13
5. problem 5.2.3, except the "6 terms in $\det A$ "
6. problem 5.2.12, except compare C^T to A^{-1} , not AC^T .
7. If A is not invertible, but B is, can AB or BA ever be invertible? If so, find an example, if not, make an argument why this is the case.
8. Is the transpose of an invertible matrix invertible? Will this always be the case?

Optional Practice:

5.1: 1, 8, 11, 15

5.2: 2, 4, 14, 15