

MATH 341
WRITTEN HOMEWORK 6
DUE FEBRUARY 24.
INSTRUCTOR: ROBERT LIPSHITZ

Required textbook problems (hand these in):

- (1) §2.8: 1, 2, 3, 4, 11, 12, 15, 16, 18, 24, 27, 28.
- (2) §2.9: 3, 4, 5, 13, 24, 26
- (3) §3.1: 2, 3, 10, 25, 26, 28, 31, 32, 41
- (4) §3.2: 1, 2, 3, 5, 9, 10, 21, 24, 40.

Suggested practice (don't hand these in):

- Please read and make sure you can do the practice problems in section 2.8, 2.9, 3.1.
- Please read and use for review problems 2.8.21(b,c,d,e), 2.8.22, 3.2.27, 3.2.28.
- If you had trouble or got help with any of the assigned problems, solve another, similar problem (or two).

Bonus points. As usual, bonus points for learning Sage.

- (1) Follow the steps in the (short) post “Subspaces and Dimension”.
- (2) Follow the steps in the (short) post “Determinants”.
- (3) Have Sage create two random 7×7 matrices A and B . (We learned how to do this in a previous week. Don't make A and B too sparse.) Verify that $\det(A)^{-1} = 1/\det(A)$, $\det(A^T) = \det(A)$, and $\det(AB) = \det(A)\det(B)$.

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