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 $7 \times 7$ 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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