HW #7, due Wed 16 Feb (turn in Fri 18 Feb)
Do p. 95: 1b,[2],3,4,7bcd. (Canceled:32,33) E.C.: explain picture on p. 99, or prove it your own way.

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2. The second part of it is saying: Prove that if $AB = BA$ then $B^T A^T = A^T B^T$.

3. (a) This is asking: Is $((AB)^{-1})^T$ equal to $(A^{-1})^T (B^{-1})^T$ or $(B^{-1})^T (A^{-1})^T$?

(b) This might be difficult at first. Here's a hint. First think about the following question: If A is upper triangular, does it imply that A^{-1} is upper triangular too? Or maybe A^{-1} must be lower triangular? Think of how you would find A^{-1} using the Gauss-Jordan elimination process. Once you answer this question, then the rest of the problem should be easier.

4. This problem is stated very poorly. It's just terrible. Mathematics should never be written like this! Here's a precise statement of the problem:
Let A be any matrix. Show that $A^2 = 0$ does not necessarily imply $A = 0$. Show that $A^T A = 0$ implies $A = 0$.

7. Don't forget to prove your answers.