Math. 362-02
Fall, 2015
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Second Exam
Tuesday, October 13, 2015

This exam is closed book, but you may use calculators. The exam should be done on your own paper. Make sure your name is on all pages. Show all work, and show it in a logical and organized manner: You will be graded on what you show, in addition to your answer. Each entire problem is worth 20 points. You may leave when you finish, and you may keep this sheet with the questions.

Consider $A = \begin{bmatrix} 1 & 2 & -1 \\ 2 & 0 & 0 \\ 3 & 0 & 4 \end{bmatrix}$.

In all of the following problems, show *all* your work. You will be graded on correctness of the intermediate steps.

1. Compute $\det(A)$ by the "arrow" method.
2. Compute $\det(A)$ by expanding by minors along the second row.
3. Compute $\det(A)$ by expanding by minors along the second column.
4. Compute $\det(A)$ by row reduction. *Note: You may also simplify the computation with column interchanges, if you wish.*
5. Use Cramer's rule to compute the solution to $Ax = b$, where A is as above and $b = [1 \quad 0 \quad 0]^T$.