Smith   Math 290   Fall 2008

Proof SLE-2

<div align="center">

Accepted   **Not Accepted**

</div>

I affirm this work abides by the university's Academic Honesty Policy.

<div align="right">

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Print Name, then Sign

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- First due date **Thursday, September 25**

- Turn in the the final version of your work on a separate sheet of paper with this page stapled in front.

- Do not include scratch work in your submission.

- Follow the Writing Guidelines of the Grading Rubric.
  (http://math.ups.edu/~bryans/Current/Fall_2008/290inf_Fall2008.html#tth_sEc5.1)

- Retry: Only use material from the relevant section or earlier.

- Retry: Start over using a new sheet of paper.

- Retry: Restaple with new attempts first and this page on top.

"It is by logic that we prove but by intuition that we discover." (Henri Poincaré)

SLE-2 (Section HS) Give an example of an appropriate homogeneous system of three linear equations in the three variables x, y, and z and prove that the null space of its coefficient matrix is the set

$$\left\{ \begin{bmatrix} 3y \\ y \\ 2y \end{bmatrix} : y \in \mathbf{C} \right\}$$

[Think carefully about the fact that there is more than one way to describe a set.]