

PRACTICE EXAM I

MAT 217 · FALL 2008

You must show all work to get full credit.

Problem 1. Use Gauss-Jordan Method to solve the linear system. 25 points

$$\begin{cases} 2x_1 + x_2 - 2x_3 = 10 \\ 3x_1 + 2x_2 + 2x_3 = 1 \\ 5x_1 + 4x_2 + 3x_3 = 4 \end{cases}$$

Problem 2. Find the inverse of $A = \begin{pmatrix} 1 & 2 & -4 \\ -1 & -1 & 5 \\ 2 & 7 & -3 \end{pmatrix}$. 25 points

Problem 3. Find x, y, z , and w if $2 \begin{pmatrix} x & z \\ y & w \end{pmatrix}^T = \begin{pmatrix} x & 7 \\ -2 & 4w \end{pmatrix} + \begin{pmatrix} 3 & z+w \\ x+y-1 & 1 \end{pmatrix}^T + I_2^2$.
25 points.

Problem 4. Let $A = \begin{pmatrix} 1 & 2 \\ 3 & -4 \end{pmatrix}$. If $f(x) = 2x^2 - 3x + 5$, then what is $f(A)$? 25 points.

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