

Math 2210-002/010 Quiz 6

Name: _____

Due: 3/25/19

This is a two-stage quiz. You will receive this back with each question graded pass/fail in our next class meeting. You have until the date specified above to submit corrections for partial credit.

1. (5 points) Find an LU factorization of the matrix

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

2. (5 points) Solve $A\mathbf{x} = \begin{bmatrix} 2 \\ -4 \\ 6 \end{bmatrix}$ using the given LU factorization of A :

$$A = \begin{bmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ 2 & 0 & 1 \end{bmatrix} \begin{bmatrix} 4 & 3 & -5 \\ 0 & -2 & 2 \\ 0 & 0 & 2 \end{bmatrix}.$$