

3 problems, 20 minutes, pencil-and-paper only. Work is more important than answers. Good luck!

PROBLEM ONE [4 PTS.]

Use elimination with partial pivoting to turn $\left[\begin{array}{ccc|c} 0 & 2 & -1 & 0 \\ 1 & 1 & -1 & 1 \\ 0 & 4 & 1 & 6 \end{array} \right]$ into an equivalent triangular system.
(Using another method is worth partial credit.)

PROBLEM TWO [4 PTS.]

Solve the system from problem 1.

PROBLEM THREE [4 PTS.]

Find an LU factorization for the following matrix. You may use any method. $A = \begin{bmatrix} 1 & -1 \\ 1 & 1 \end{bmatrix}$