

## Homework #4

due Tuesday, September 24

### Exercises from Strang:

Problem Set 2.7 #22<sup>1</sup>, 39

Problem Set 3.1 #9, 10, 12, 13, 16, 20, 22, 23, 24, 27, 28, 32

Problem Set 3.2 #1<sup>2</sup>, 12, 31

### Additional Problems:

1. Consider the three points  $(1, -7)$ ,  $(2, -16)$ ,  $(3, -33)$ . Use  $PA = LU$  decomposition to find the quadratic polynomial  $y = ax^2 + bx + c$  that passes through these three points.

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<sup>1</sup>Use Maximal Partial Pivoting please!

<sup>2</sup>Compute the row-reduced echelon form, not the “triangular echelon form”.