

Homework 1: Systems of Linear Equations (Part 1)

1. §1.1, #1, 9(a).
2. §1.2, #2, 3(a), 5.
3. Row reduce matrix A to reduced row echelon form. List the pivot columns of A .

$$A = \begin{bmatrix} 3 & 5 & 7 & 9 & 0 \\ 2 & 6 & 10 & 14 & 0 \\ 5 & 7 & 9 & 1 & 0 \end{bmatrix}$$

4. Find the equation $y = ax^2 + bx + c$ of the parabola passing through the points $(-2, -6)$, $(1, 6)$, and $(3, 4)$. (Your answer should be an equation of the form $y = ax^2 + bx + c$, for some constants a , b , and c .)

Hint: Substituting the x - and y -coordinates of a point into the equation $y = ax^2 + bx + c$ will produce a linear equation in a , b , and c . Do this for the three given points to get three linear equations. Then solve the system of linear equations.