Exercises

Show that the following overdetermined system of linear equations is inconsistent.

$$x_1 - 2x_2 = 3$$
$$x_1 + 2x_2 = -1$$
$$-2x_1 + 3x_2 = -4$$

Exercises

Determine the least squares solution for the inconsistent system of linear equations.

$$x_1 - 2x_2 = 3$$
$$x_1 + 2x_2 = -1$$
$$-2x_1 + 3x_2 = -4$$

Exercises

For the following system, use Gaussian Elimination to find the least squares solution to the normal equations.

$$x_1 - 2x_2 = 3$$
$$x_1 + 2x_2 = -1$$
$$-2x_1 + 3x_2 = -4$$

Exercises

Find an equation of the least squares line for the data points $(-1,0)$, $(0,1)$, $(1,2)$, $(2,4)$.

Exercises

Find a quadratic least squares polynomial $y = a_0 + a_1 x + a_2 x^2$ for the data points $(-1,0)$, $(0,1)$, $(1,2)$, $(2,4)$.