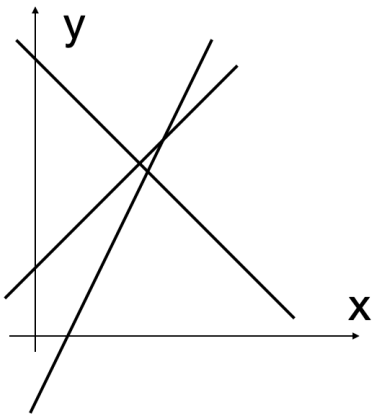
Homework 8

1. *Optional*. Find the approximate intersection of three lines defined by the following equations:

   y = x + 1

   y = 4 - x

   y = 2x - 1



2. *Optional*. Find the equation of the line that comes as near as possible to all the vectors below:

   [19, 43, 25], [9, 21, 15], [12, 29, 18], [21, 46, 27], [-4, -4, 2], [24, 51, 30], [5, 14, 11]

3. Optional. There are five 4D vectors:

   [1, 3, 5, 7], [-1, 2, -3, 0], [0, 1, 1,-1], [0, 2, 1, 1], [-2, 4, -5, 4]

   Find a 2D plane, so all these vectors almost belong to it. Estimate the error - the average distance between the original vectors and their approximates belonging to the plane.