

# Linear Algebra I: Homework 1

Due Friday, August 25, 2017

1. a. Find all solutions of the system of linear equations

$$3x + 5y = 3$$

$$5x - 6y = 0$$

- b. On a single coordinate plane, sketch a line for each linear equation in the above system, then point out in your graph where your solution from part (a) is.

2. Find *all* solutions of the system of linear equations

$$5x_1 + x_2 = -3$$

$$10x_1 + 2x_2 = -6$$

3. Write down a system of linear equations that has **no** solutions.
4. Write down an augmented matrix corresponding to the system of linear equations,

$$4a + c - d = 9$$

$$2b + c + d = 3$$

$$a + b + c + d = -1$$

$$4b = 8$$