

Essential Mathematics

Tutorial 3

Semester 2 2017

1 Systems of Linear Equations

1. Find x and y such that:

(a)

$$x + y = 3 \tag{1}$$

$$x - y = 4 \tag{2}$$

(b)

$$1.5x + 3y = 9.75 \tag{3}$$

$$2x - 0.5y = 9.5 \tag{4}$$

2. For each of the following systems, is there one solution, no solution, or an infinite number of solutions?

(a)

$$19x + 14y = 8$$

$$133x + 98y = 56$$

(b)

$$19x + 14y = 8$$

$$133x + 98y = 57$$

(c)

$$20x + 53y = 3066$$

$$7x - 12y = 798$$

2 Systems of nonlinear equations

1. For each of the following systems, find all values for x and y

(a)

$$x - y^2 = 0 \tag{5}$$

$$x - 3y = 10 \tag{6}$$

(b)

$$-3x - y = -2 \tag{7}$$

$$x^2 + 2y = -4 \tag{8}$$