

Charles Lin - Written Homework 0

8/22/2023

1. What do you know about the class?

a) Instructor Name?

Xueying Wang

Preferred Name of Instructor?

Dr. Snow

b) MLM Due Date?

Every Wednesday

Written Homework Due Date?

Every Thursday

c) MLM late deduction?

25% deduction.

Written Homework late deduction?

NO CREDIT

2. Resources for help:

The textbook on Pearson, the instructor, or the TA's

3. System of two unknowns, x and y

a) Give example of system with NO solutions

$$\begin{cases} x+y=1 \\ x+y=2 \end{cases}$$

These two lines are parallel, and never intersect. Thus, there is no solution to the system

b) Give example of system with infinitely many solutions.

$$\begin{cases} x+y=1 \\ 2x+2y=2 \end{cases}$$

These two lines completely overlap with each other, and thus there is an infinite number of solutions.

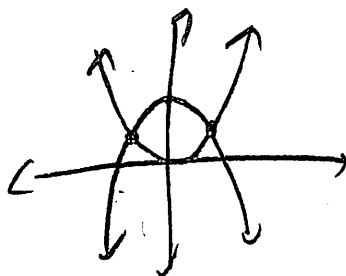
c) Give example of a linear system with exactly ONE solution

$$\begin{cases} x + y = 1 \\ 2x + y = 1 \end{cases}$$

These two lines intersect at exactly one point since they have different slopes, so there is exactly one solution.

d) Give example of non linear system with exactly TWO solutions

$$\begin{cases} y = x^2 \\ y = 1 - x^2 \end{cases}$$



These lines intersect at only two points, thus the system has two solutions