MATH 54 QUIZ 1A AUGUST 30, 2019

Please show **all** your work and circle your answer! You have 15 minutes for this quiz.

Name:_____

Determine whether each of the following systems of linear equations has a solution, if there is a solution, find it.

1. (5pts)

$$\begin{aligned} 10x - 26y &= 4 \\ -5x + 13y &= 2 \end{aligned}$$

Solution: Take the first equation and add two times the second equation to get:

$$0 = 8$$

Therefore this system of equations is inconsistent, there are no values of x and y that satisfy this system, so there is no solution.

2. (5pts)

$$\begin{aligned} x + y + z &= 0 \\ x + y &= 0 \\ x &= 1 \end{aligned}$$

Solution: We have $x = 1$, substitute this into the second equation to get $1 + y = 0$ so $y = -1$, then substitute this into the first equation to get $1 - 1 + z = 0$ therefore $z = 0$.