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Week 4 – Math Assignment

07/23/15

1. Using matrix operations, describe the solutions for the following family of equations:

It’s a singular matrix, so no solutions. The first line minus the second line equals the third line.

2. Provide a solution for #1, using R functions of your choice.

>a <- rbind(c(1,2,-3),

c(2,1,-3),

c(-1,1,0))

>b <- c(5,13,-8)

>solve(a,b)

Error in solve.default(a, b) :

Lapack routine dgesv: system is exactly singular: U[3,3] = 0

3. Solve for AB by hand:

AB = = =

4. Solve AB from #3 using R functions of your choice.

>c <- rbind(c(4, -3),

c(-3, 5),

c(0, 1))

>d <- rbind(c(1, 4),

c(3, -2))

>c %\*% d

[,1] [,2]

[1,] -5 22

[2,] 12 -22

[3,] 3 -2