

Math 308 Discussion Problems
Spring 2017

1. Matt is a software engineer writing a script involving 6 tasks. Each must be done one after the other. Let t_i be the time for the i th task. These times have a certain structure:

- Any 3 adjacent tasks will take half as long as the next two tasks.

- The second task takes 1 second.

- The fourth task takes 10 seconds.

a) Write an augmented matrix for the system of equations describing the length of each task.

b) Reduce this augmented matrix to reduced echelon form.

c) Suppose he knows additionally that the sixth task takes 20 seconds and the first three tasks will run in 50 seconds. Write the extra rows that you would add to your answer in b) to take account of this new information.

d) Solve the system of equations in c).