Week 4

Section 3.2

1. Solve the following system by Gaussian elimination:

   (a)

$$\begin{aligned} 2x - 2y &= -6 \\ x - y + z &= 1 \\ 3y - 2z &= -5 \end{aligned}$$

   (b)

$$\begin{aligned} x - 2y + z &= 0 \\ 2x + y - 3z &= 5 \\ 4x - 7y + z &= -1 \end{aligned}$$

   (c)

$$\begin{aligned} x + 2z &= 3 \\ y - 3z &= 4 \end{aligned}$$

   (d)

$$\begin{aligned} 3x + 4y + 2z &= 1 \\ x + 2y + 3z &= 4 \\ 2x + 3y + z &= 4 \end{aligned}$$

Section 3.3

2. Find the general solution of the linear system

$$\begin{aligned} x + 2y + 3z &= 9 \\ 2x + y + z + 2w &= 7 \\ 4x + 5y + 7z + 2w &= 25 \end{aligned}$$