Assignment 1

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Download all latex-tikz codes from

https://github.com/cmaspi/EE3900/blob/main/Assignment−2/assignment−1.tex

1 Problem

(Matrix Q 2.10) Solve the equation for x,y,z and t, if

$$2\begin{pmatrix} x & z \\ y & t \end{pmatrix} + 3\begin{pmatrix} 1 & -1 \\ 0 & 2 \end{pmatrix} = 3\begin{pmatrix} 3 & 5 \\ 4 & 6 \end{pmatrix} \tag{1.0.1}$$

2 Solution

$$2\begin{pmatrix} x & z \\ y & t \end{pmatrix} + \begin{pmatrix} 3 & -3 \\ 0 & 6 \end{pmatrix} = \begin{pmatrix} 9 & 15 \\ 12 & 18 \end{pmatrix} \tag{2.0.1}$$

$$\implies 2\begin{pmatrix} x & z \\ y & t \end{pmatrix} = \begin{pmatrix} 9-3 & 15+3 \\ 12-0 & 18-6 \end{pmatrix} \tag{2.0.2}$$

$$\implies \begin{pmatrix} x & z \\ y & t \end{pmatrix} = \frac{1}{2}\begin{pmatrix} 6 & 18 \\ 12 & 12 \end{pmatrix} \tag{2.0.3}$$

$$\implies \begin{pmatrix} x & z \\ y & t \end{pmatrix} = \begin{pmatrix} 3 & 9 \\ 6 & 6 \end{pmatrix} \tag{2.0.4}$$

This implies

$$\implies x = 3 \tag{2.0.5}$$

$$\implies z = 9 \tag{2.0.6}$$

$$\implies y = 6 \tag{2.0.7}$$

$$\implies t = 6 \tag{2.0.8}$$