

Homework #1
due Tuesday, September 3

Exercises from Strang:

Problem Set 1.1 #2,3,5-9,12,13,28,31

Problem Set 1.2 #4,5,16,18,19,22,29,31

Additional Problems:

1. Consider the vectors

$$\vec{v} = \begin{bmatrix} 1 \\ 2 \\ 4 \end{bmatrix} \text{ and } \vec{w} = \begin{bmatrix} 3 \\ -5 \\ 7 \end{bmatrix}$$

Compute the inner product $\vec{v}^T \vec{w}$ and the outer product $\vec{v} \vec{w}^T$. Are they the same?
How are $\vec{v} \vec{w}^T$ and $\vec{w} \vec{v}^T$ related?