MA 2073. HOMEWORK 1
DUE: FRIDAY JANUARY 24

Problems from text:

Section 2.1: 5, 21, 26, 27

Section 2.2: 7, 9, 11, 13, 24, 25

Section 2.3: 3, 4, 16, 19, 25, 26, 28

Section 2.4: 7, 8, 11

Section 2.5: 6, 7, 8, 11, 15, 18

Section 2.6: 5, 13

Section 2.7: 4, 7

Section 3.1: 4, 7, 10, 11, 14, 15, 22, 23, 24, 27

Additional problems:

1. Given $\mathbf{v}$, $\mathbf{w}$ in a vector space V, let $H = span\{\mathbf{v}, \mathbf{w}\}$. Show that H is a subspace of V.

2. Let K be a subspace of V that contains the vectors $\mathbf{v}$, and $\mathbf{w}$. Show that K also contains $H = span\{\mathbf{v}, \mathbf{w}\}$. This shows that $span\{\mathbf{v}, \mathbf{w}\}$ is the smallest subspace of V that contains both $\mathbf{v}$ and $\mathbf{w}$.