Reading Assignment

Please read Chapter 2 of Herstein’s book through section 2.4.

Writing Assignment

Please work the following problems.

2. (30 points). Herstein page 36 problems 15, 21 and 22.
3. (20 points) Let $G$ denote the set of real $2 \times 2$ matrices

\[
\begin{pmatrix}
x & y \\
-\ y & x
\end{pmatrix}
\]

where $x^2 + y^2 = 1$. Show that $G$ is a group under multiplication.
4. (20 points) Herstein page 46 problems 1 and 2.