Second Homework Assignment

9/1: 1,3,7
9/3: 13,17,21
9/6: 27,37,43

Turn-in problems due 9/6: 4,14,20,24,28,34,36,48,52,56

$\star$ **problem**: Define $H = \{\begin{pmatrix} a & b \\ -\bar{b} & \bar{a} \end{pmatrix} \in M_2(\mathbb{C})\}$. Show that H is a subring of $M_2(\mathbb{C})$. Does H have any zero-divisors? Is it an integral domain? This set is often called the quaternions, and you may have seen a definition in a different way.