1. Jacobson I 4.5.2
2. Jacobson I 4.5.3
3. Jacobson I 4.5.6
4. Jacobson I 4.5.9
5. Suppose that $E$ is a subfield of the complex numbers which is mapped to itself by complex conjugation. Show that the set $E_0$ of real numbers in $E$ is a subfield of $E$ and $[E : E_0] \leq 2$. If $E/Q$ is Galois, show that $E_0/Q$ is Galois if and only if $Gal(E/E_0)$ is in the center of $Gal(E/Q)$.
6. Jacobson I 4.5.13