1. (2 points) Determine the splitting field and its degree over $\mathbb{Q}$ for $x^4 + x^2 + 1$.

2. (2 points) Section 13.5, Problem 3

3. (2 points) Section 13.5, Problem 4

4. (2 points) Section 13.5, Problem 5

5. (2 points) Section 13.5, Problem 6