Some new terminology for something we’ve already seen: Given field extensions $K/F$, $K'/F$, a (ring) isomorphism $K \to K'$ that sends every element of $F$ to itself is called an $F$-isomorphism. If $K = K'$, we’d call it an $F$-automorphism of $K$.

1. Find all of the $\mathbb{R}$-automorphisms of $\mathbb{C}$. (Hint: $i^2 = -1$)

2. Use the proof of the primitive element theorem to find elements of $\mathbb{Q}(\sqrt{3}, \sqrt{5})$ and $\mathbb{Q}(\sqrt{2}, \sqrt{3}, \sqrt{5})$ that are primitive over $\mathbb{Q}$.

3. Any questions about the upcoming exam? Any thoughts or comments on what could make the last part of the semester as helpful and productive as possible for you?