

May 13, 2021

### 18.702 Quiz 6

Take this quiz any time on Friday, May 14.

As always: You are required to do the quiz alone.

You may consult the text, but no other source.

**The problem:**

Let  $K = \mathbb{C}(t)$  be the field of rational functions in  $t$  with complex coefficients, let  $\sigma$  and  $\tau$  be the automorphisms of  $K$  defined by  $\sigma(t) = -t$  and  $\tau(t) = t^{-1}$ , and let  $G$  be the group of automorphisms they generate. Determine the fixed field  $K^G$ , and justify your assertions.