

Turn in #5

Let $f(x) = x^4 + x^3 - x^2 - x + 1 \in \mathbb{Q}[x]$

(a) Show that if $r \in \mathbb{C}$ is a root of $f(x)$ then so is $-\frac{1}{r}$.

(b) What does the constant term of $f(x)$ imply about the number of distinct roots it has?

Don't look at the graph, and don't assume $f(x)$ is irreducible, and even though $r \in \mathbb{C}$, it could be that $r \in \mathbb{R}$.

[10 points]