Exercise.
Say if $f(x)$ is irreducible in $\mathbb{R}[x]$ in the following cases:

- $f(x) = x^2 + 1$.
  Yes, because it is quadratic and the discriminant is $-4$.

- $f(x) = x^2 - 1$.
  No, because it has a root 1.

- $f(x) = x - 15$.
  Yes, because it is of degree 1.

- $f(x) = x^{123} - 3x^{77} + 6$.
  No, because it is of degree $\geq 3$. 