1. Consider the polynomial $x^2 + x + 1$.

   (a) Substitute $y + 1$ for $x$ and expand the result.

   (b) Why is the polynomial in $y$ you obtained in part (a) irreducible?

   (c) Why does the work you have done in parts (a) and (b) show that $x^2 + x + 1$ must also be irreducible?