Problem of the Week-3: Remainder in Polynomial Division

Let $p(x) = x^{2014} + x^{2013} - 3x^{2012} + 2x^{2011} + 3x - 2$ Find the remainder, without using a computer or calculator, when $p(x)$ is divided by $x^3 - x$.

As always, show your work, fully explain and justify your answer.