

Problem of the Week-5: Degree of a Polynomial

Determine all positive integers n for which there is a polynomial $p(x)$ of degree n , satisfying all of the following conditions:

1. $p(k) = k$, for $k = 1, 2, \dots, n$
2. $p(0)$ is an integer
3. $p(-1) = 2012$

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

Posting Date 10/28/12. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 11/5/12.