

Problem 1: Polynomial with Integer Coefficients

Does there exist a polynomial $f(x)$ with integer coefficients such that $f(3) = 2024$ and $f(7) = 2027$?

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.

Posting Date 1/13/2024. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 by e-mail or hard-copy by noon on Sunday, January 21, 2024. An email submission must be a single pdf file. Hard copy submissions must be dropped in the file holder at my office door (Hayes 319) and must include a time stamp.