

Problem 4 (due Monday, October 23)

Let $f(x)=ax^2+bx+c$ be a quadratic polynomial with integral coefficients. Suppose that there are $n \geq 5$ consecutive integers at which the value of f is a perfect square. Prove that b^2-4ac is divisible by every prime number smaller or equal than n .

The problem was solved by Dr. Mathew Wolak. Matt's solution is essentially the same as one of our in-house solutions. For detailed solutions, some additional discussion and related open questions see the following link [Solution](#).

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Last update: **2023/11/02 17:07**

