Problem 4 (due Monday, October 23)

Let $f(x)=ax^2+bx+c$ be a quadratic polynomial with integral coefficients. Suppose that there are $n\neq 5$ consecutive integers at which the value of f is a perfect square. Prove that a=0 is divisible by every prime number smaller or equal than f.

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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