Cal Poly Department of Mathematics

Puzzle of the Week

Jan 30 - Feb 5, 2009

Let $f : \mathbb{R} \to \mathbb{R}$ be a differentiable function. Prove that

$$\lim_{x\to\infty} (f(x) + f'(x)) = 0 \implies \lim_{x\to\infty} f(x) = 0.$$

Solutions should be submitted to Morgan Sherman:

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before next Friday. Those with correct and complete solutions will have their names listed in next week's email announcement. Anybody is welcome to make a submission.