

Problem 1 (due on Monday, February 14)

Let  $f: (0, \infty) \rightarrow \mathbb{R}$  be a continuously differentiable function such that  $\displaystyle \lim_{x \rightarrow \infty} (f(x) + 2f'(x)) = 1$ . Prove that  $\displaystyle \lim_{x \rightarrow \infty} f'(x) = 0$ .

We received a solution from Ashton Keith. Ashton's ideas are similar to our second solution, but his solution lacks sufficient rigor. For detailed solution see the following link [Solution](#).

From:

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<http://www2.math.binghamton.edu/p/pow/problem1s22>

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