## Name:

Warm-up \#14
Suppose that $f$ satisfies $|f(x)| \leqslant x^{2}$ for each $x$ in some interval of the origin. Show that
(a) $f$ is continuous at $x=0$
(b) $f$ is differentiable at $x=0$
(c) $f^{\prime}(0)=0$.

