Taylor Series

Question

Suppose the MacLaurin series on the interval $[-1, 1]$ for some function $f(x)$ is

$$f(x) = x - \frac{x^3}{9} + \frac{x^5}{25} - \cdots .$$

Which of the following statements are true? (There may be more than one correct answer.)

A. $\lim\limits_{x \to 0} \dfrac{f(x)}{x} = 0$

B. $\lim\limits_{x \to 0} \dfrac{f(x)}{x} = 1$

C. $f(1) > 8/9$

D. $f(0) = 1$