The function with rule $f(x) = x^2$ is continuous and differentiable on the interval $[0, 4]$.

A. According to the Intermediate Value Theorem, it is possible to find a value $c$ in the interval $[0, 4]$ for which $f(c) = 4$. What is that value?

B. According to the Extreme Value Theorem, $f$ assumes maximum and minimum values somewhere on $[0, 4]$. Give the numbers in $[0, 4]$ at which $f$ assumes its maximum and minimum values. Give those values, as well.