1. The graph of f is shown in the figure above. The value of $\lim\limits_{x \to 0} f\left(1 - x^2\right)$ is
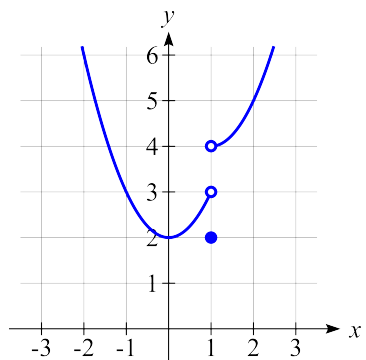

Figure 1: Graph of f

A. 1   B. 2   **C. 3**   D. 4   E. does not exist

Solution: Consider the graph of $g(x) = 1 - x^2$. As $x \to 0, 1 - x^2 \to 1$ *from the left*. Thus, we want the left-hand limit and $\lim\limits_{x \to 0^-} f(x) = 3$.

Source: IPE 2016 Calculus BC #88