

Suppose that the function f is defined, for all real numbers, as follows.

$$f(x) = \begin{cases} -\frac{1}{2}x - 1 & \text{if } x \leq -1 \\ (x+1)^2 - 1 & \text{if } -1 < x < 2 \\ 2 & \text{if } x \geq 2 \end{cases}$$

Find $f(0)$, $f(2)$, and $f(4)$.

$$f(0) = \boxed{}$$

$$f(2) = \boxed{}$$

$$f(4) = \boxed{}$$

