4.

Solution

Quadratic function: is a function that can be written in the form:

$k(n)=an^2+bn+c$ where a, b, and c are real numbers and $a\neq 0$

we have $k(n)=n^2+6n-10$, note: $n^2+6n-10$ is in nk-plane

Here, we know that $a=1$, $b=6$, $c=-10$

Since $a>0$,we know that the k-coordinate of the vertex is a minimum. However,to find the k-coordinate of our vertex we first need to find the n-coordinate of the vertex by using $n=-\frac{b}{2a}=-\frac{6}{2}=-3$ Now that we have the n-coordinate, we can find the k-coordinate of the vertex by finding $k(-3)=1(-3)^2+6(-3)-10=9-18-10=-19$ Minimum$=-19$