3.

Solution

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

$j(q)=aq^2+bq+c$ where a, b, and c are real numbers and $a\neq 0$

we have $j(q)=-2q^2-4q+3$, note: $-2q^2-4q+3$ is in qj-plane

Here, we know that $a=-2$, $b=-4$, $c=3$

Since $a<0$,we know that the j-coordinate of the vertex is a maximum.However,to find the j-coordinate of our vertex we first need to find the q-coordinate of the vertex by using $q=-\frac{b}{2a}=-1=-1$ Now that we have the q-coordinate, we can find the j-coordinate

of the vertex by finding $j(-1)=-2(-1)^2-4(-1)+3=-2+4+3=5$ Maximum=5