6.

Solution

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

$f(z)=az^2+bz+c$ where a, b, and c are real numbers and $a\neq 0$

we have $f(z)=-3z^2+6z-14$, note: $-3z^2+6z-14$ is in zf-plane

Here, we know that $a=-3$, $b=6$, $c=-14$

Since $a<0$,we know that the f-coordinate of the vertex is a maximum.However,to find the f-coordinate of our vertex we first need to find the z-coordinate of the vertex by using $z=-\frac{b}{2a}=-\frac{6}{-6}=1$ Now that we have the z-coordinate, we can find the f-coordinate of the vertex by finding $f(1)=-3(1)^2+6(1)-14=-3+6-14=-11$ Maximum$=-11$